



BLUE ROCK
ENVIRONMENTAL, INC.

FILE COPY

Ms. Leanne Schroyer
Registered Environmental Health Specialist
Humboldt County Division of Environmental Health
100 H Street, Suite 100
Eureka, California 95501

April 13, 2005

**Re: First Quarter 2005 Groundwater Monitoring and
Remedial System Operations Report**
Former Central BP Station
2160 Central Avenue
McKinleyville, California
LOP # 12692
Blue Rock Project No. NC-24

Dear Ms. Schroyer,

This report presents the results of the First Quarter 2005 groundwater monitoring and soil vapor extraction (SVE) operational data for activities performed at the Former Central BP Station located at 2160 Central Avenue in McKinleyville, Humboldt County, California. (site) (Figure 1). The report was prepared for the Louise Pierson Revocable Trust by Blue Rock Environmental, Inc. (Blue Rock).

Background

Site Description

The former Central BP Service Station is located in the unincorporated town of McKinleyville, California (Figure 1). The flat lying and gravel-surfaced site is approximately 0.5 acre in size. All former service station structures have been removed. Surrounding property is predominantly commercial. The site is approximately 150 feet above mean sea level.

Site History

The Louise Pierson Trust has owned the property since 1956. A service station was constructed on the site in 1959. The original station included one 1,000-gallon waste oil, two 5,000-gallon gasoline, and one 10,000-gallon gasoline underground storage tanks (USTs). In 1972, the station was remodeled. During the remodel, the 1,000-gallon waste oil tank was moved about 15 feet west, and an additional 2,000-gallon gasoline UST was installed on the west side of the existing gasoline USTs.

Site Investigation and Corrective Action History

On November 29, 1990, the waste oil tank and the 2,000-gallon UST were removed from the site. In August 1991, SHN Consulting Engineers reportedly excavated approximately 40 cubic

yards of impacted soil from the 2,000 gallon UST location. Subsequent soil analysis detected low levels of petroleum hydrocarbons.

In August, 1998, Clearwater observed Albers Construction of Eureka, California remove the remaining 5,000 gallon and 10,000 gallon USTs and overexcavate approximately 340 cubic yards of petroleum-contaminated soil from the excavation. In addition, approximately 200 cubic yards of contaminated tank bedding was removed, remediated on site, and backfilled into the excavation per HCDEH approval. Samples collected from the floor and sidewalls of the excavation detected gasoline-range hydrocarbons at five of the eight sample locations evaluated.

To initially evaluate the extent of groundwater contamination near the former UST site, Clearwater drilled four soil borings (B-1 to B-4) and installed three groundwater monitoring wells (MW-1, MW-2, and MW-3) in July 1999 and implemented a quarterly groundwater monitoring program (Figure 2). Analysis of groundwater samples collected during this phase of work confirmed the presence of dissolved phase petroleum hydrocarbons in site groundwater.

Clearwater supervised the drilling of nine soil borings on August 31, 2000 according to Clearwater's *Expanded Subsurface Investigation Workplan* dated March 15, 2000 and monitoring wells were constructed in four of these borings (MW-4 through MW-7 as shown in Figure 2). The purpose of this phase of work was to evaluate the lateral and vertical extents of petroleum hydrocarbon contamination in subsurface soil and groundwater onsite. Petroleum hydrocarbon contamination was detected in soil and groundwater at the eastern property line in the vicinity of the former pump islands and south of the former UST complex. Data collected from this investigation is presented in Clearwater's *Subsurface Investigation and First Quarterly Monitoring Report Third Quarter 2000* dated October 23, 2000.

On August 6 and 7, 2001, Clearwater supervised the drilling and installation of five additional monitoring wells associated with the subject property: MW-8, MW-9, MW-10, MW-11 and MW-12 (Figure 2). These monitoring wells were placed in locations to further assess the offsite hydrocarbon contamination associated with the UST release. Data collected during this phase of investigation is presented in Clearwater's *Subsurface Investigation and First Quarterly Monitoring Report Third Quarter 2001* dated October 16, 2001.

In a letter dated November 27, 2001, the HCDEH requested that a *Corrective Action Plan* (CAP) be prepared. Clearwater subsequently submitted a CAP dated March 11, 2002 which proposed soil vapor extraction pilot testing. In a letter dated August 6, 2002, the HCDEH requested additional work (soil textural analysis) and a response to comments contained in the referenced letter. Clearwater subsequently responded to the HCDEH letter dated August 6, 2002 in the *Quarterly Groundwater Monitoring Report Third Quarter 2002 and Response to HCDEH letter dated August 6, 2002* dated September 18, 2002.

In a letter dated October 28, 2002, the HCDEH requested an implementation schedule designed to verify the material types in the upper 15 feet bgs. Clearwater subsequently submitted a *Workplan / Implementation Schedule for Verification of Material Types in the Upper 15 feet Below Ground Surface Onsite* dated November 18, 2002.

On January 30, 2003, Clearwater supervised the drilling of 3 soil borings (SVB-1 through SVB-3) (Figure 2). These soil borings were placed in locations to confirm the soil types previously logged in the field, through testing of samples by standardized geotechnical laboratory procedures, in the vicinity of former borings MW-7, B-2 and B-4 per Clearwater's Workplan dated November 18, 2002. Results of this investigation were presented in Clearwater's *Quarterly Groundwater Monitoring Report First Quarter 2003 and Results of Soil Texture Investigation* dated March 7, 2003. In a letter dated April 17, 2003 the HCDEH concurred with the recommendation to perform a soil vapor extraction pilot study.

Clearwater performed soil vapor extraction testing at the site on July 28, 2003 and subsequently prepared and submitted a *Remedial Action Plan* (RAP) dated September 3, 2003. The RAP, which provided details for the installation of the proposed remedial action (soil vapor extraction / air sparge) was approved by the HCDEH in a letter dated September 8, 2003.

In September, 2003 Clearwater supervised the installation of five vapor extraction wells (VEW-1 to VEW-5) and six air sparge wells (SW-1 to SW-6) (Figure 2). Due to North Coast Unified Air Quality Control (NCUAQMD) requirements, installation of the proposed SVE system was postponed until spring 2004.

In April 2004, Clearwater supervised Sustainable Technologies of Alameda, California install the SVE / Air Sparge system. System installation consisted of installation of homerun piping, electricity, and installation of the catalytic oxidizer. In June 2004, the Louise Pierson Trust retained Blue Rock to continue site work. A summary of well construction details are included in Table 1 and cumulative groundwater monitoring data are included in Table 2.

Field and Laboratory Activities

Groundwater Monitoring Activities

On March 27, 2005, twelve wells (MW-1 to MW-12) were gauged were sampled.

Prior to sampling, an electronic water level indicator was used to gauge depth to water in each well, accurate to within ± 0.01 -foot. All wells were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to purging. No measurable thicknesses of LNAPL were observed on groundwater in any of the wells.

In preparation for sampling, the wells were purged of groundwater until sampling parameters (temperature, pH, and conductivity) stabilized. A downhole Dissolved Oxygen (DO) meter was used to measure DO concentrations in groundwater before and after the wells were purged. DO concentrations recorded this quarter are listed in the text below.

Following recovery of water levels to at least 80% of their static levels in the other wells, groundwater samples were collected from the wells using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Purging instruments were cleaned between use by an Alconox® wash followed by double rinse in clean tap water to prevent cross-contamination. Purge and rinseate water was stored on-site in labeled 55-gallon drums pending future removal and disposal.

Groundwater monitoring and well purging information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached).

Groundwater Sample Analyses

Groundwater samples were analyzed by Kiff Analytical (Kiff), a DHS-certified laboratory, located in Davis, California, for the following analytes:

- TPHd by EPA Method 3510/8015M.
- TPHg, BTEX, MTBE by EPA Method 5030/8260B.

Groundwater Monitoring Results

Groundwater Flow Direction and Gradient

Static groundwater in the wells was present beneath the site at depths ranging from approximately 11.84 (MW-5) to 15.24 (MW-7) feet bgs. Gauging data, combined with well elevation data, were used to calculate groundwater elevation, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to be toward the east-southeast to east-northeast at gradients ranging from 0.01 ft/ft to 0.03 ft/ft (Figure 3). Historic groundwater flow direction and gradient are shown in Figure 4. The groundwater gradient and flow direction for this quarter is consistent with previous measurements.

Groundwater Contaminant Analytical Results

LNAPL:	None
TPHd concentration:	<50 micrograms per liter ($\mu\text{g/L}$) (MW-1, 2, 3, 4, 8, 9, 10, 11) to <10,000 $\mu\text{g/L}$ (MW-7)
TPHg concentration:	<50 $\mu\text{g/L}$ (MW- 2, 3, 4, 8, 9, 10, 11) to 18,000 $\mu\text{g/L}$ (MW-7)
Benzene concentration:	<0.50 $\mu\text{g/L}$ (MW-1, 2, 3, 4, 6, 9, 10, 11, 12) to 680 $\mu\text{g/L}$ (MW-5)
MTBE Concentration:	<0.50 $\mu\text{g/L}$ (MW-1, 2, 4, 6, 9, 10, 11, 12) to 41 $\mu\text{g/L}$ (MW-8)

Groundwater sample analytical results are shown graphically on Figure 5 cumulative groundwater sample analytical results are summarized in Table 2. Copies of the laboratory report and chain-of-custody form are attached.

Remarks

During the March 27, 2005 sampling event, MW-5 and MW-7 were found to be silted in to just below the measured depth to groundwater not able to be purged or sampled. Subsequently, on March 28, 2005, MW-5 and MW-7 were redeveloped, thus removing the accumulated silt. Groundwater samples were then collected from the two wells on March 28, 2005. The extent of dissolved-phase contamination remains delineated. The magnitude and distribution of dissolved-phase contaminants detected during this event have diminished compared to previous sampling events. Dissolved oxygen concentrations in groundwater ranged from 1.89 mg/L (MW-6) to 9.89 mg/L (MW-12).

Soil Vapor Extraction System

Background

The soil vapor extraction system design includes six wells plumbed for vapor extraction VEW-1 to VEW-6 (Figure 6). The remediation system was constructed in April 2004 in accordance with Clearwater's *RAP* dated September 3, 2003. The system was tested on July 6 through July 9, 2004 for initial compliance testing according to the North Coast Unified Air Quality Management District (NCUAQMD) authority to construct (ATC) permit #NAC-380 (Attached). Effluent results of the verification testing indicated that the system was operating within compliance of the permit. Thus, according to the ATC permit weekly compliance monitoring was initiated. The interval for the monitoring of the system and the collection influent and effluent air samples was reduced to monthly from weekly beginning in July 2004 as system compliance with the NCUAQMD ATC permit had been demonstrated.

Operational Data

Petroleum hydrocarbon vapors extracted from soil and groundwater are treated by a 250 scfm Solleco 250 ECAT catalytic oxidizer (catox).

In accordance with the NCAQMD ATC permit, the influent and effluent air streams for the catox unit were analyzed for contaminant concentrations (TPHg, BTEX and MTBE) during the first four days of startup and weekly thereafter. Sampling intervals were changed to monthly once compliance had been demonstrated. Catox operational data and analytical results for influent and effluent samples, and compliance data are presented on Tables 3, 4, 5 and 6. The soil vapor extraction process flow diagram is shown on Figure 7. Individual vapor well analytical results of vapor samples collected from the catox influent streams, during startup of the system in July 2004 are presented on Table 3. The following is a summary of the operational data and analytical results of samples from the soil vapor extraction process stream for this monitoring period:

• Monitoring Initiation:	System was started on 7/6/04
• Period of Operation:	December 21, 2004 to March 22, 2005
• Monitoring Dates:	1/17/05, 2/7/05, 3/17/05, 3/18/05, 3/21/05, 3/22/05
• Total Operational Hours:	4,565 hours to date
• Period Operational Hours:	1,135 Hours
• Period System running time:	53%
• Period Average influent air flow rate:	249 scfm
• Period Average influent air TPHg:	963 mg/m ³
• Period Average effluent air TPHg:	23 mg/m ³
• Period Average Destruction efficiency:	96.7%,
• Period Average TPHg recovery rate:	24 lb/day
• Total TPHg recovery:	7,902 lb (1,300 gal) to date
• Operating wells:	VEW-1 through VEW-6
• Analytes tested:	TPHg, BTEX, MTBE
• Analytical methods:	EPA Method 8260B
• Laboratory:	Kiff Analytical LLC, Davis, California

The TPHg recovery rate is based on analytical influent air sample results and concurrently measured air flow. The average TPHg recovery rate for each month is multiplied by hours of operation for that period to calculate TPHg removal for the period between each sampling event.

Air Sparge System

Background

The air sparge injection system design includes five wells plumbed for sparging: SW-1 to SW-6 (Figure 8). The air sparge system was constructed in April 2004.

Operational Data

- Startup date: Started on 12/1/04
- Operational time: On 24 hrs / day 7 days / week,
off with SVE system shutdown
- Injection air flow rate: Approximately 3 scfm

Remarks

The air sparge system was started following the installation of interlocks between the SVE and Sparge systems in early December 2004. The sparge system was subsequently shut down in mid December due to the added influent hydrocarbon concentrations originating from sparge system operation causing the system to shut down. When influent concentrations from SVE system operation began to diminish, the sparge system was restarted to address residual dissolved hydrocarbons.

Remedial System Status

The soil vapor extraction system is configured to concentrate extracting vapor from wells VEW-1 to VEW-6. The catox has been in operation since July 6, 2004. The soil vapor extraction system is operating as designed, recovering hydrocarbon vapor from the area of soil contamination at significant rates. An estimated 7,902 lbs. (1,300 gal.) of hydrocarbons have been recovered from the subsurface. The SVE / Sparge system was shut down in February 2005 due to failure of the electric motor which runs the positive displacement blower. The motor and blower were removed, repaired and subsequently replaced on March 17, 2005. The system was subsequently restarted on March 17, 2005 requiring a four day startup compliance monitoring per ATC permit # NAC-380. Blue Rock recommends continued operation of the vapor extraction remediation system as designed. Sparge system operation has been resumed as SVE influent concentrations have begun to diminish.

Project Status and Recommendations

- The site is currently being monitored on a quarterly basis per the HCDEH directive directives. The next quarterly sampling event is scheduled for June 2005. Groundwater samples are currently analyzed for TPHd, TPHg, BTEX, and MTBE.
- The SVE / air sparge system should continue operation as designed The next influent / effluent sampling event is scheduled for mid April 2005.

Certification

This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

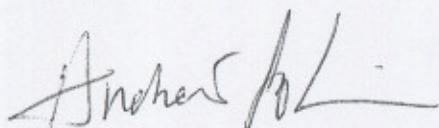
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (707) 441-1934.

Sincerely,
Blue Rock Environmental, Inc.

Prepared by:

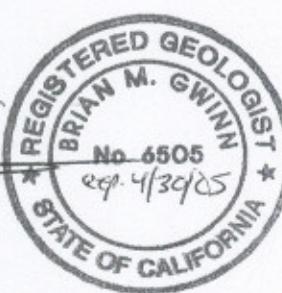


Andrew LoCicero
Project Scientist

Reviewed by:



Brian Gwinn, P.G.
Principal Geologist



Attachments:

- Table 1: Well Construction Details
- Table 2: Groundwater Elevations and Sample Analytical Results
- Table 3: SVE Air Sample Analytical Results
- Table 4: SVE Operational Data
- Table 5: SVE System APCD Compliance Data
- Table 6: Calculations for Hydrocarbon Emissions
- Figure 1: Site location Map
- Figure 2: Site Plan
- Figure 3: Groundwater Elevation and Gradient Map – 3/27/05
- Figure 4: Cumulative Groundwater Flow Direction and Gradient 6/99 – 3/05
- Figure 5: Dissolved-Phase Hydrocarbon (TPHg) Distribution – 3/27/05 – 3/28/05
- Figure 6a: SVE Layout and Radius of Influence (VEW-1, 3, 5)
- Figure 6b: SVE Layout and Radius of Influence (VEW-2, 4, 6)
- Figure 7: Catox and Well Manifold Schematic
- Figure 8: Sparge Blower and Well Manifold Schematic
- Blue Rock Gauge/Purge Calculations Well Purging Data field sheets and SVE O&M Forms
- Laboratory Analytical Reports and Chain-of-Custody Forms
- North Coast Unified Air Quality Management District Authority to Construct Permit

Distribution:

Mr. Greg Pierson, Louise Pierson Revocable Trust, 1200 W. Harris Street, Eureka, CA 95503

Mr. Al Steer, North Coast Unified Air Quality Management District, 2300 Myrtle Ave. Eureka, CA 95501

Table 1
Well Construction Data
Former Central BP Station
2160 Central Ave
McKinleyville, California
Blue Rock Project No. NC-24

Well Identification	Date Installed	Installed by	Casing Diameter (inches)	Total Depth (feet)	Blank Interval (feet)	Screened Interval (feet)	Slot Size (inches)	Filter Pack (feet)	Bentonite Seal (feet)	Cement (feet)
MW-1	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-2	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-3	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-4	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-5	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-6	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-7	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-8	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-9	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-10	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-11	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-12	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
VEW-1	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-2	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-3	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-4	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-5	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
SW-1	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-2	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-3	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-4	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-5	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-6	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (ppm)	DTW (feet)	GWE (feet)	Groundwater										
					TPHg	TPHd	TPHm	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DPE	TAME	ETBE
MW-1	7/28/99	149.69	14.52	135.17	13,000	620	<500	12	10	500	796	25	-	<2.5	<50
	10/25/99	149.69	17.42	132.27	10,000	640	<500	48	3.9	400	262	83	<0.5	<1	<10
	1/18/00	149.69	14.32	135.37	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
	2/17/00	149.69	9.36	140.33	-	-	-	-	-	-	-	-	-	-	-
	3/3/00	149.69	8.52	141.17	-	-	-	-	-	-	-	-	-	-	-
	4/21/00	149.69	10.39	136.30	<50	<50	<170	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<10
	9/12/00	149.69	17.11	135.58	113	135	-	0.7	0.8	3.6	8.1	<2	<0.5	<0.5	<500
	10/16/00	149.69	17.97	131.72	-	-	-	-	-	-	-	-	-	-	-
	11/16/00	149.69	18.37	131.72	-	-	-	-	-	-	-	-	-	-	-
	12/14/00	149.69	18.59	131.10	1.48	<50	-	2.9	<0.8	<0.8	<1.5	5.1	<1.3	<1.3	<1.3
	1/22/01	149.69	18.46	131.23	-	-	-	-	-	-	-	-	-	-	-
	2/16/01	149.69	17.78	131.91	-	-	-	-	-	-	-	-	-	-	-
	3/9/01	149.69	16.78	132.91	885	100	-	<0.3	<0.5	<0.3	6.2	<2	<0.5	<0.5	<0.5
	4/13/01	149.69	17.11	135.58	-	-	-	-	-	-	-	-	-	-	-
	5/7/01	149.69	17.7	131.99	-	-	-	-	-	-	-	-	-	-	-
	6/1/01	149.69	18.04	131.65	930	<250	-	1.7	0.85	20	1.9	0.67	<0.5	<0.5	<0.5
	7/18/01	149.69	19.02	130.67	-	-	-	-	-	-	-	-	-	-	-
	8/17/01	149.69	19.57	130.12	170	<100	-	<0.5	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	10/1/01	149.69	dry	-	-	-	-	-	-	-	-	-	-	-	-
	11/19/01	149.69	dry	-	-	-	-	-	-	-	-	-	-	-	-
	12/27/01	149.69	15.81	133.88	-	-	-	-	-	-	-	-	-	-	-
	1/14/02	149.69	13.31	136.38	-	-	-	-	-	-	-	-	-	-	-
	2/4/02	149.69	12.46	137.23	64	<50	-	<0.5	<0.5	3.1	<0.5	<0.5	<0.5	<0.5	<0.5
	3/14/02	149.69	9.79	136.90	-	-	-	-	-	-	-	-	-	-	-
	4/4/02	149.69	10.27	136.42	-	-	-	-	-	-	-	-	-	-	-
	5/7/02	149.69	12.12	137.57	<50	<50	-	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5
	7/23/02	148.28	16.61	131.67	-	-	-	-	-	-	-	-	-	-	-
	8/5/02	148.28	17.01	131.27	430	<200	-	<0.5	<0.5	16	15	<0.5	<0.5	<0.5	<0.5
	11/18/02	148.28	dry	-	-	-	-	-	-	-	-	-	-	-	-
	2/6/03	148.28	9.53	138.75	<50	<30	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/1/03	148.28	7.83	140.45	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/1/03	148.28	14.89	133.39	1,200	<200	-	0.63	5.4	1.8	61	<0.5	<0.5	<0.5	<0.5
	11/1/03	148.28	19.25	129.03	<50	64	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2/4/04	148.28	10.01	130.27	<50	71	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/28/04	148.28	15.04	133.24	630	<200	-	<0.5	1.2	15	22	<0.5	-	-	-
	9/8/04	148.28	17.87	136.41	150	<200	-	<0.5	5.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/04	148.28	19.19	129.09	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/05	148.28	14.04	134.24	130	<50	-	<0.5	<0.5	1.3	1.9	<0.5	-	-	-
MW-2	7/28/99	149.24	14.11	135.13	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	49	-	-	-
	10/25/99	149.24	16.77	137.47	<50	<50	1.4	<0.5	<0.5	<0.5	<0.5	27	<1	<1	<10
	1/18/00	149.24	9.89	139.35	<50	<50	<0.5	<0.5	<0.5	<0.5	1	<1	<1	<1	<10
	2/17/00	149.24	10.76	138.48	-	-	-	-	-	-	-	-	-	-	-
	3/3/00	149.24	9.72	139.52	-	-	-	-	-	-	-	-	-	-	-
	4/21/00	149.24	11.21	138.03	<50	<50	<170	<0.5	<0.5	<0.5	12	<1	<1	<10	<10
	9/12/00	149.24	16.43	135.81	<50	<50	<0.9	<0.3	<0.3	<0.3	23.9	<0.5	<0.5	<0.5	<500
	10/16/00	149.24	17.33	131.91	-	-	-	-	-	-	-	-	-	-	-
	11/16/00	149.24	17.86	135.81	-	-	-	-	-	-	-	-	-	-	-
	12/14/00	149.24	18.16	131.91	<50	<50	-	<0.3	<0.3	<0.6	14.3	<0.5	<0.5	<0.5	<0.5
	1/22/01	149.24	18.19	131.05	-	-	-	-	-	-	-	-	-	-	-
	2/16/01	149.24	17.74	131.50	-	-	-	-	-	-	-	-	-	-	-
	3/9/01	149.24	17.04	135.20	<50	<50	<0.3	<0.3	<0.3	<0.6	7	<0.5	<0.5	<0.5	<0.5

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central RPP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	Groundwater						TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
					TPH ₂ (µg/L)	TPHd (µg/L)	TPHm (µg/L)	Benzene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)					
MW-2	4/13/01	149.24	17.01	132.23	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.24	17.34	131.90	<50	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<0.5	--
	6/1/01	149.24	17.83	131.41	<50	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<0.5	--
	7/18/01	149.24	18.65	130.59	<50	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<0.5	<50
	8/17/01	149.24	19.14	130.10	<50	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<0.5	<50
	10/1/01	149.24	19.92	129.73	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.24	20.55	128.69	<50	<0.5	<0.5	<0.5	<0.5	19	<0.5	<0.5	<0.5	<0.5	<50
	12/27/01	149.24	17.89	131.35	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.24	15.86	133.38	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.24	14.51	134.73	820	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	3/14/02	149.24	11.34	132.90	--	--	--	--	--	--	--	--	--	--	--
	4/8/02	149.24	11.49	137.75	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.24	12.69	136.55	1,200	<50	8.9	<0.5	<0.5	8.5	<0.5	<0.5	<0.5	<0.5	<50
	7/23/02	148.06	15.81	132.25	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.06	16.15	131.91	1,000	<50	13	6.7	<0.5	1.5	9.6	<0.5	<0.5	<0.5	<50
	1/11/02	148.06	18.96	129.10	<50	<50	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<50
	2/6/03	148.06	11.04	1400	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
	5/1/03	148.06	8.96	139.10	120	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	8/1/03	148.06	14.23	133.53	840	<50	0.67	<0.5	<0.5	0.73	<0.5	<0.5	<0.5	<0.5	<50
	11/1/03	148.06	18.47	129.59	370	<50	1.7	<0.5	<0.5	5	0.53	<0.5	<0.5	<0.5	<50
	2/4/04	148.06	11.34	136.72	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	6/28/04	148.06	14.69	133.37	66	<50	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	9/8/04	148.06	17.13	136.93	<50	<50	2.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	12/20/04	148.06	18.66	129.40	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	3/27/05	148.06	15.19	132.87	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50
	7/28/99	148.62	13.40	135.22	<50	53	<500	<0.5	<0.5	<0.5	<0.5	<0.5	100	--	--
	10/25/99	148.62	16.72	131.90	<50	<50	<0.5	<0.5	<0.5	<0.5	11	<1	<1	<1	<10
	1/13/00	148.62	13.78	134.84	<50	<500	<0.5	<0.5	<0.5	<0.5	4.9	<1	<1	<1	<10
	2/17/00	148.62	8.17	140.45	--	--	--	--	--	--	--	--	--	--	--
	3/3/00	148.62	7.46	141.16	--	--	--	--	--	--	--	--	--	--	--
	4/21/00	149.24	9.54	139.70	<50	<170	<0.5	<0.5	<0.5	<0.5	6.9	<1	<1	<1	<10
	9/12/00	149.24	16.23	133.01	58	<50	<0.3	<0.3	<0.3	<0.3	89.7	<0.5	9.4	<0.5	<500
	10/16/00	149.24	17.13	132.11	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.24	17.52	131.72	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.24	17.67	131.57	68	<50	<0.3	<0.3	<0.3	<0.3	<0.6	62.3	<0.5	3.8	<0.5
	1/22/01	149.24	17.68	131.56	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.24	16.99	132.25	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.24	15.93	133.31	<200	<50	<1.2	<1.2	<1.2	33.7	42.6	<2	<2	3.4	<2
	4/13/01	149.24	16.19	133.05	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.24	16.63	132.61	--	--	--	--	--	--	--	--	--	--	--
	7/17/01	149.24	17.67	131.08	<50	<0.5	<0.5	<0.5	<0.5	73	<0.5	7.7	<0.5	<5	--
	8/17/01	149.24	18.10	131.14	--	--	--	--	--	--	--	--	--	--	--
	10/1/01	149.24	18.65	130.59	<50	<0.5	<0.5	<0.5	<0.5	53	<0.5	3.7	<0.5	<5	<50
	11/19/01	149.24	19.48	129.76	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.24	20.06	129.18	<50	<0.5	<0.5	<0.5	<0.5	69	<0.5	3.4	<0.5	<5	<50
	2/4/02	149.24	14.29	134.95	--	--	--	--	--	--	--	--	--	--	--
	3/14/02	149.24	10.43	138.81	<50	<0.5	<0.5	<0.5	<0.5	6.2	<0.5	<0.5	<0.5	<0.5	<50
	4/8/02	149.24	8.34	140.90	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.24	10.57	138.67	<50	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<50
	7/23/02	147.44	15.67	131.77	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.44	16.09	131.35	<50	<0.5	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	<0.5	<5
	11/18/02	147.44	18.77	128.67	<50	<0.5	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	<0.5	<68

10-120m

NC-24

GROUNDWATER ELEVATION AND ANALYTICAL RESULTS

Table 2
**GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS**
Former Central JV Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (mg/L)	DTW (feet)	GWE (feet)	Groundwater												
					TPHg (µg/L)	TPHd (µg/L)	TPHm (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DPE (µg/L)	TAME (µg/L)	ETBIE (µg/L)	TBA (µg/L)	Ethanol (µg/L)
MW-5	1/22/701	149.02	17.45	131.57	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/5/402	149.02	15.48	133.54	—	—	—	—	—	—	—	—	<50	<50	<50	<50	<500
	2/4/02	149.02	13.98	135.04	<2,500	—	—	2,500	14,000	2,100	8,100	—	—	—	—	—	<500
	3/14/02	149.02	10.67	136.35	—	—	—	—	—	—	—	—	—	—	—	—	<500
	4/4/02	149.02	10.85	138.17	—	—	—	—	—	—	—	—	—	—	—	—	—
	5/7/02	149.02	12.10	136.92	30,000	<500	—	1,100	3,700	940	3,300	<5.0	<5.0	<5.0	<5.0	<50	<500
	7/23/02	147.64	15.37	132.27	—	—	—	—	—	—	—	—	—	—	—	—	—
	8/5/02	147.64	15.73	131.91	55,000	<2,500	—	1,100	4,900	1,800	6,500	<20	<20	<20	<20	<200	<200
	11/18/02	147.64	18.91	128.73	26,000	<3,500	—	220	450	930	1,900	33	<5	6.7	<50	<50	<500
	2/6/03	147.64	10.32	137.32	2,300	<600	—	8.9	60	33	79	<0.5	<0.5	<0.5	<0.5	<20	<50
	5/1/03	147.64	8.27	139.37	<50	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50
	8/1/03	147.64	13.81	131.83	8,800	<600	—	110	1,300	210	1,000	<0.5	<0.5	<0.5	<0.5	<5	<5
	11/16/03	147.64	18.06	129.58	24,000	<3,300	—	170	200	540	1,000	<5	<5	<5	<5	<50	<50
	2/3/04	147.64	10.36	136.78	3,800	<200	—	9.1	31	59	110	<1	<1	<1	<1	<1	<1
	6/28/04	147.64	14.27	133.37	13,000	<1,000	—	270	600	440	1,600	<2.5	<2.5	<2.5	<2.5	<10	<10
	9/8/04	147.64	16.16	131.48	24,000	<4,000	—	210	230	730	1,200	<5	<5	<5	<5	<5	<5
	12/2/04	147.64	18.11	129.53	37,000	<2,000	—	1,900	5,100	1,400	3,500	17	<1	<1	<1	<1	<1
	3/27/05	147.64	11.84	135.80	6,600	<300	—	680	1,600	180	480	11	<1	<1	<1	<1	<1
MW-6	9/12/200	149.82	17.29	132.54	2,310	759	—	20.5	28.5	177	58.7	13.8	<0.5	<0.5	<0.5	<0.5	<500
	10/16/00	149.82	18.23	131.59	—	—	—	—	—	—	—	—	—	—	—	—	—
	11/16/00	149.82	18.56	131.26	—	—	—	—	—	—	—	—	—	—	—	—	—
	12/14/00	149.82	18.82	131.00	1,790	670	—	12.9	2.5	175	9.9	8.1	<0.5	<0.5	<0.5	<0.5	<0.5
	1/22/01	149.82	18.73	131.09	—	—	—	—	—	—	—	—	—	—	—	—	—
	2/16/01	149.82	18.03	131.79	—	—	—	—	—	—	—	—	—	—	—	—	—
	3/5/01	149.82	17.09	132.73	8,150	1,680	—	11.9	9.4	458	173	2.6	<0.5	<0.5	<0.5	<0.5	<100
	4/13/01	149.82	17.38	132.44	—	—	—	—	—	—	—	—	—	—	—	—	—
	5/7/01	149.82	17.82	132.00	—	—	—	—	—	—	—	—	—	—	—	—	—
	6/1/01	149.82	18.33	131.49	4,400	<1,200	—	3.6	1.2	180	20	1.9	<1	<1	<1	<1	<10
	7/18/01	149.82	19.31	130.51	—	—	—	—	—	—	—	—	—	—	—	—	<50
	8/17/01	149.82	19.86	129.96	1,900	<600	—	7.8	<0.5	17	1.3	3.6	<0.5	0.86	<0.5	<5	<5
	10/1/01	149.82	20.73	129.09	—	—	—	—	—	—	—	—	—	—	—	—	<5
	11/19/01	149.82	21.27	128.55	2,100	<400	—	23	2.9	28	0.68	9.4	<0.5	2.3	<0.5	<5	<100
	12/27/01	149.82	17.36	132.46	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/14/02	149.82	14.93	134.89	—	—	—	—	—	—	—	—	—	—	—	—	<50
	2/4/02	149.82	13.93	135.89	2,700	<400	—	0.8	<0.5	55	40	<0.5	<0.5	<0.5	<0.5	<5	<5
	3/14/02	149.82	11.27	130.55	—	—	—	—	—	—	—	—	—	—	—	—	<5
	4/4/02	149.82	11.62	138.20	—	—	—	—	—	—	—	—	—	—	—	—	<5
	5/7/02	149.82	12.98	136.84	1,100	<200	—	<0.05	<0.5	24	1.2	<0.5	<0.5	<0.5	<0.5	<50	<50
	7/23/02	148.42	16.84	131.58	—	—	—	—	—	—	—	—	—	—	—	—	<50
	8/5/02	148.42	17.23	131.19	2,600	<500	—	1.8	<0.5	100	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	11/1/02	148.42	19.94	128.48	370	<200	—	1.7	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	2/6/03	148.42	10.78	137.64	460	<300	—	<0.5	<0.5	3.6	3.3	<0.5	<0.5	<0.5	<0.5	<5	<5
	5/1/03	148.42	8.90	139.52	1,30	<150	—	<0.5	<0.5	2.6	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	8/1/03	148.42	15.11	131.31	830	<400	—	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	11/1/03	148.42	19.44	128.98	740	<400	—	2.8	0.64	14	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	2/4/04	148.42	10.95	137.47	260	<200	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	6/25/04	148.42	15.30	131.12	180	<100	—	<0.5	<0.5	2.6	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	9/8/04	148.42	18.08	130.34	430	<400	—	0.7	<0.5	7.1	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	12/2/04	148.42	19.43	128.99	92	<50	—	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
	3/27/05	148.42	14.94	131.48	150	<100	—	<0.5	<0.5	1.6	2	<0.5	<0.5	<0.5	<0.5	<5	<5

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (mg/L)	DTW (feet)	GWE (feet)	Groundwater													
					TPhH (µg/L)	TPhA (µg/L)	TPhB (µg/L)	TPhM (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Nitrobenzene (µg/L)	MIBK (µg/L)	DPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)
MW-7	9/12/00	149.53	16.26	133.27	334,000	6,380	-	18,300	46,100	7,650	33,200	<400	<0.5	<0.5	<0.5	<500	<50	<50
	10/16/00	149.53	17.44	132.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/16/00	149.53	17.96	131.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/14/00	149.53	18.27	131.26	87,200	2,910	-	12,100	28,800	3,220	14,090	81.3	<2.5	2.5	-	-	-	-
	1/22/01	149.53	18.25	131.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/16/01	149.53	17.74	131.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/9/01	149.53	17.04	132.49	87,560	7,810	-	7,120	21,300	2,250	16,440	48.9	<0.5	<0.5	<0.5	<500	<50	<50
	4/13/01	149.53	17.12	132.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/7/01	149.53	17.40	132.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/10/01	149.53	17.89	131.64	120,000	<4,000	-	9,900	26,000	3,100	13,000	60	<50	<50	<50	<500	<500	<500
	7/18/01	149.53	17.82	130.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/17/01	149.53	19.23	130.30	86,000	<3,000	-	8,000	15,000	3,300	12,000	67	<50	<50	<50	<500	<500	<500
	10/10/01	149.53	19.89	129.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/19/01	149.53	20.64	128.89	88,000	<6,500	-	5,900	14,000	2,800	11,000	<50	<50	<50	<500	<500	<500	<500
	12/27/01	149.53	17.74	131.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/14/02	149.53	15.71	133.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/4/02	149.53	14.44	135.09	110,000	<10,200	-	960	12,000	3,600	16,000	<50	<50	<50	<500	<500	<500	<500
	3/14/02	149.53	10.68	138.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/4/02	149.53	11.18	138.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/7/02	149.53	12.49	137.04	180,000	<9,400	-	1,260	13,000	4,100	18,000	<25	<25	<25	<250	<250	<250	<250
	7/23/02	148.09	15.73	132.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/5/02	148.09	16.06	132.03	130,000	<4,500	-	1,260	15,000	3,900	16,000	<50	<50	<50	<500	<500	<500	<5,000
	11/18/02	148.09	19.12	128.97	110,000	<7,000	-	2,960	21,000	3,300	13,000	<100	<100	<100	<1,000	<1,000	<10,000	<10,000
	2/6/03	148.09	10.64	137.45	78,000	<26,000	-	260	3,100	3,600	13,000	<20	<20	<20	<200	<200	<200	<200
	5/1/03	148.09	8.57	136.52	41,000	<6,700	-	23	400	1,700	6,600	<0.5	<0.5	<0.5	<5	<5	8.7	<50
	8/1/03	148.09	14.18	131.91	89,000	<25,000	-	340	4,700	4,300	18,000	<25	<25	<25	<250	<250	<250	<250
	11/10/03	148.09	18.53	129.56	77,000	<6,700	-	630	5,500	1,900	8,400	<25	<25	<25	<250	<250	<250	<250
	2/4/04	148.09	11.05	137.04	62,000	<8,000	-	110	1,900	2,700	11,000	<10	<10	<10	<100	<100	<100	<100
	6/28/04	148.09	14.58	133.51	77,000	<8,000	-	260	3,100	2,700	11,000	<20	<20	<20	<200	<200	<200	<200
	9/8/04	148.09	17.04	131.05	64,000	<10,000	-	320	2,400	2,600	11,000	<25	<25	<25	<250	<250	<250	<250
	12/7/04	148.09	18.64	132.85	15,000	<10,000	-	430	1,100	1,600	5,900	<10	<10	<10	<100	<100	<100	<100
	3/27/05	148.09	15.24	133.85	-	-	-	180	460	390	2,400	<4	<4	<4	<40	<40	<40	<40
MW-8	8/17/01	148.75	18.58	136.17	540	<200	-	82	<0.5	1.4	3.8	23	<0.5	<0.5	7.8	<5	<50	<50
	11/19/01	148.75	19.26	129.39	-	-	-	19	<0.5	11	<0.5	160	<0.5	2.2	4.6	15	<5	<50
	12/27/01	148.75	17.42	131.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/14/02	148.75	14.77	133.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/4/02	148.75	13.48	135.27	1,200	<100	-	30	<0.5	1.3	290	<0.5	4.9	4.3	32	<50	<50	<50
	3/14/02	148.75	10.77	137.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/4/02	148.75	10.95	137.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/7/02	148.75	12.17	136.58	1,400	<100	-	110	0.51	1.5	19	<0.5	<0.5	<0.5	9.6	<5	<50	<50
	7/23/02	147.49	15.52	131.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/5/02	147.49	15.90	131.59	780	<200	-	90	<0.5	0.96	40	<0.5	0.60	0.55	12	<75	<5	<50
	11/18/02	147.49	18.53	128.96	380	100	46	<0.5	1.1	<0.5	89	<0.5	1.10	<0.5	16	<50	<5	<50
	2/6/03	147.49	10.32	137.17	210	<10	-	10	<0.5	<0.5	24	<0.5	<0.5	<0.5	12	<50	<5	<50
	5/1/03	147.49	8.40	135.09	150	<10	-	-	-	-	-	-	-	-	-	-	-	-
	8/1/03	147.49	13.92	133.57	650	120	-	73	<0.5	<0.5	12	<0.5	<0.5	<0.5	28	<50	<5	<50
	11/10/03	147.49	18.16	129.33	88	87	-	4	<0.5	<0.5	78	<0.5	0.93	1.3	8.9	<5	<5	<50
	2/4/04	147.49	10.78	136.71	120	<10	-	12	<0.5	<0.5	42	<0.5	-	-	-	-	-	-
	6/28/04	147.49	14.23	133.26	160	<10	-	22	<0.5	<0.5	9.6	<0.5	0.91	0.9	-	-	-	-
	9/8/04	147.49	16.77	130.72	52	<10	-	15	<0.5	<0.5	27	<0.5	-	-	-	-	-	-
	12/2/04	147.49	18.17	129.32	380	<10	-	39	11	<0.5	41	<0.5	<0.5	<0.5	-	-	-	-
	3/27/05	147.49	14.97	133.42	<50	<10	-	-	-	-	-	-	-	-	-	-	-	-

GRONDWATER ELEVATION
ANALYTICAL RESULTS
2160 Central Ave.
Midlander, California
Project No. NC-24

GRONDWATER ELEVATION
ANALYTICAL RESULTS
2160 Central Ave.
Midlander, California
Project No. NC-24

Table 2
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central RPP Station
2160 Central Ave.
McKinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (mg/L)	DTW (feet)	GWE (feet)	Groundwater													
					TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Styrene (µg/L)	MTBE (µg/L)	DPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-11	11/1/03	146.79	17.71	125.08	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	2/4/04	146.79	11.64	133.15	<50	95	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	6/28/04	146.79	13.18	133.61	<50	50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	9/8/04	146.79	16.26	136.53	<50	50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	12/2/04	146.79	17.90	128.89	<50	50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	3/27/05	146.79	14.45	133.34	<50	50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
MW-12	8/17/01	147.93	18.31	129.62	590	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	63	
	10/1/01	147.93	19.20	128.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/1/01	147.93	19.77	128.16	280	<150	<150	7.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	12/2/01	147.93	16.99	130.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/14/02	147.93	14.62	133.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/4/02	147.93	13.29	134.64	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	
	3/14/02	147.93	10.51	137.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/4/02	147.93	10.63	137.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/7/02	147.93	11.80	136.13	600	<100	<100	-	22	<0.5	2.2	<0.5	0.92	<0.5	<0.5	<5	<50	
	7/23/02	146.74	15.16	131.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/5/02	146.74	15.55	131.19	1,000	<200	<200	-	49	0.71	37	20	3.7	<0.5	<0.5	6.8	<5	<100
	11/18/02	146.74	18.36	128.38	99	<50	<50	-	1	<0.5	<0.5	1.2	7.2	<0.5	0.59	10	<50	<50
	2/6/03	146.74	10.19	136.55	560	<200	<200	-	10	<0.5	4.8	<0.5	<1	<0.5	<0.5	<5	<50	<50
	5/1/03	146.74	8.17	138.57	270	<100	<100	-	9.3	<0.5	6.64	<0.5	<0.5	<0.5	<0.5	<5	<50	<50
	8/1/03	146.74	13.52	133.22	770	<300	<300	-	28	<0.5	16	1.1	0.5	<0.5	<0.5	<5	<50	<50
	11/1/03	146.74	17.80	128.94	600	<200	<200	-	12	<0.5	8.57	<0.5	0.69	<0.5	<0.5	<5	<50	<50
	2/4/04	146.74	10.35	136.19	240	-	-	-	7.2	<0.5	4.3	<0.5	<0.5	<0.5	<0.5	<5	<50	<50
	6/28/04	146.74	13.83	132.91	670	<200	<200	-	7.4	<0.5	20	<0.5	<0.5	<0.5	<0.5	<5	<50	<50
	9/8/04	146.74	16.37	130.37	970	<300	<300	-	23	<0.5	27	0.52	<0.5	<0.5	<0.5	<5	<50	<50
	12/2/04	146.74	17.91	128.83	<50	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<50	<50
	3/27/05	146.74	13.70	133.04	740	<200	<200	-	10	<0.5	41	0.61	<0.5	<0.5	<0.5	<5	<50	<50
					MCL	-	-	-	1	1.50	750	1,750	5	-	-	-	-	-
					NCHWQCB Cleaning Goals	5	100	-	-	42	29	17	5	-	-	-	-	-

Note:

Sample date is parentheses indicates new well survey per groundwater (NCSGPID#V1170) Aluminum Cap HPGNDIC-A0109 (Vista Point, Hwy 101).

TOC: Top of casing referenced to benchmark.

GWE: Ground water elevation as referenced to benchmark.

µg/L = micrograms per liter; parts per billion

—: Not analyzed, available, and / or applicable

MCL: Maximum contaminant level, an enforceable drinking water standard

AL: Action level

State & order threshold: A drinking water standard

TPHg: Total petroleum hydrocarbons as gasoline by EPA Method E260B

TPHd: Total petroleum hydrocarbons as diesel oil by EPA Method 3550B/3550M

TPHmo: Total petroleum hydrocarbons as motor oil by EPA Method E260B

MTBE: Methyl tertiary butyl ether by EPA Method K366B

DPE: Di-isopropyl ether by EPA Method K366B

TAME: Tertiary amyl methyl ether by EPA Method K366B

ETBE: Ethyl tertiary butyl ether by EPA Method K366B

TBA: Tertiary Butyl Alcohol by EPA Method K366B

NRWQCB: North Coast Regional Water Quality Control Board

Table 3
SVE Air Sample Analytical Results
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Mckinleyville, California
Blue Rock Project No. NC-24

Sample I.D.	Sample Date	TPHg (mg/m3)	B (mg/m3)	T (mg/m3)	E (mg/m3)	X (mg/m3)	MTBE (mg/m3)
Inf 7/6/04 (all wells)	7/6/04	4,600	14	75	36	140	<0.5
Influent (all wells)	7/7/04	2,700	6.3	56	34	140	<0.8
VEW-1 Inf	7/8/04	3,500	42	330	82	340	1.6
VEW-2 Inf	7/8/04	2,500	5.3	90	41	190	<0.5
VEW-3 Inf	7/8/04	4,400	4.8	37	34	120	<0.5
VEW-4 Inf	7/8/04	2,200	1.5	13	27	92	<0.25
VEW-5 Inf	7/8/04	860	0.39	5	14	56	<0.2
VEW-6 Inf	7/8/04	98	<0.2	<0.2	<0.2	<0.2	<0.2
Inf 7/8/04 (all wells)	7/8/04	1,500	3.4	36	23	98	<0.25
Influent (all wells)	7/9/04	1,300	<0.4	1.1	12	47	<0.4
Influent 7/15/04	7/15/04	930	0.27	0.97	8.4	31	<0.2
Influent 7/22/04	7/22/04	970	0.3	0.94	8.1	29	<0.2
Influent 7/29/04	7/29/04	1,200	2.6	22	12	54	<0.2
Influent 8/26/04	8/26/04	3,000	5.8	32	17	95	<0.2
Influent 9/22/04	9/22/04	2,300	3.5	26	19	83	<0.6
Influent 10/14/04	10/14/04	2,700	5.8	47	27	110	<0.5
Influent 11/17/04	11/17/04	6,900	12	86	37	120	<0.5
Influent 12/21/04	12/21/04	4,200	29	120	27	94	<0.5
Influent 1/17/05	1/17/05	280	0.38	3	2.3	11	<0.2
Influent 2/7/05	2/7/05	1,600	6.70	52	14	54	<0.2
Influent 3/17/05	3/17/05	400	1.5	9.6	2.2	9.8	<0.2
Influent 3/18/05	3/18/05	1,000	3.8	26	6.7	28	<0.2
Influent 3/21/05	3/21/05	1,000	3.8	31	6.8	34	<0.2
Influent 3/22/05	3/22/05	1,500	5.4	32	7.1	34	<0.2

Table 3
SVE Air Sample Analytical Results
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Mckinleyville, California
Blue Rock Project No. NC-24

Sample I.D.	Sample Date	TPHg (mg/m3)	B (mg/m3)	T (mg/m3)	E (mg/m3)	X (mg/m3)	MTBE (mg/m3)
Eff 7/6/04	7/6/04	23	<0.2	0.26	<0.2	<0.2	<0.2
Effluent	7/7/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent	7/8/04	260	0.24	4.70	6.4	27	<0.2
Effluent	7/9/04	43	<0.2	0.63	0.17	3.9	<0.2
Effluent 7/15/04	7/15/04	<20	<0.2	<0.2	0.24	1.3	<0.2
Effluent 7/22/04	7/22/04	<20	<0.2	<0.2	<0.2	0.65	<0.2
Effluent 7/29/04	7/29/04	<20	<0.2	<0.2	<0.2	0.45	<0.2
Effluent 8/26/04	8/26/04	<20	<0.2	0.35	<0.2	0.4	<0.2
Effluent 9/22/04	9/22/04	100	0.22	2.6	1.2	6.9	<0.2
Effluent 10/14/04	10/14/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 11/17/04	11/17/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 12/21/04	12/21/04	54	0.32	0.66	<0.2	0.22	<0.2
Effluent 1/17/05	1/17/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 2/7/05	2/7/05	28	0.31	<0.2	<0.2	<0.2	<0.2
Effluent 3/17/05	3/17/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 3/18/05	3/18/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 3/21/05	3/21/05	24	<0.2	0.46	<0.2	<0.2	<0.2
Effluent 3/22/05	3/22/05	27	<0.2	0.34	<0.2	<0.2	<0.2

Notes:

SVE	Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox)
Influent	Air sample collected from catox influent
Effluent	Air sample collected from catox effluent
Ops Time	Catox cumulative site operational hours
mg/m3	Milligrams per cubic meter
<#,##	Compound not detected at or below the reported laboratory detection limit
TPHg	Total Petroleum Hydrocarbons as gasoline EPA Method 8260B
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Method 8260B
MTBE	Methyl tert-Butyl Ether by EPA Method 8260B

Table 4
SVE Operational Data
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Eureka California
Blue Rock Project No. NC-24

Sample Location	Sample Date	Total Ops Time (hr)	Period Ops Time (hr)	TPHg (mg/m ³)	SVE Wells On	Manifold Vacuum (in. w.c.)	Flow (scfm)	TPHg Yield (lb/hr)	Average TPHg Yield (lb/hr)	Average TPHg Yield (lbs/day)	Period Yield (lb)	Cumulative Yield (lb)
Influent	7/6/04	3.50	3.50	4,600	VW-1, 2, 3, 4 ,5, 6	29.0	158	2.72	2.72	65.35	10	10
Influent	7/7/04	21.2	17.7	2,700	VW-1, 2, 3, 4 ,5, 6	30.0	194	1.96	2.34	56.22	41	51
Influent	7/8/04	47.0	25.8	1,500	VW- 2, 4 ,6	35.0	182	1.02	1.49	35.82	39	90
Influent	7/9/04	71.6	24.6	1,300	VW- 2, 4 ,6	35.0	178	0.87	0.94	22.67	23	113
Influent	7/15/04	217.0	145.4	930	VW- 2, 4 ,6	35.0	183	0.64	0.75	18.05	109	223
Influent	7/22/04	386.1	169.1	970	VW- 2, 4 ,6	35.0	237	0.86	0.75	17.99	127	349
Influent	7/29/04	553.0	166.9	1,200	VW-1, 2, 3, 4 ,5, 6	35.0	199	0.89	0.88	21.07	147	496
Influent	8/26/04	1,150.0	597.0	3,000	VW-1, 2, 3, 4 ,5, 6	35.0	150	1.69	1.29	30.96	770	1266
Influent	9/22/04	1,793.0	643.0	2,300	VW-1, 2, 3, 4 ,5, 6	35.0	118	1.02	1.35	32.43	869	2135
Influent	10/14/04	2,322.0	529.0	2,700	VW -1,4,6	35.0	257	2.60	1.81	43.39	956	3091
Influent	11/17/04	3,000.0	678.0	6,900	VW -2,3,5	22.0	140	3.62	3.11	74.62	2108	5199
Influent	12/21/04	3,430.0	430.0	4,200	VW- 3,4,6	15.0	180	2.83	3.23	77.41	1387	6586
Influent	1/17/05	4,016.0	586.0	280	VW- 3,4,5,6	20.0	222	0.23	1.53	36.78	898	7484
Influent	2/7/05	4,471.0	455.0	1,600	VW- 3,4,5,6	15.0	207	1.24	0.74	17.68	335	7820
Influent	3/17/05	4,505.0	34.0	400	VW- 3,4,5,6	30.0	262	0.39	0.82	19.60	28	7847
Influent	3/18/05	4,533.0	28.0	1,000	VW- 3,4,5,6	30.0	282	1.06	0.72	17.39	20	7868
Influent	3/21/05	4,557.0	24.0	1,000	VW- 3,4,5,6	22.0	268	1.00	1.03	24.72	25	7892
Influent	3/22/05	4,565.0	8.0	1,500	VW- 3,4,5,6	20.0	252	1.42	1.21	29.04	10	7902

Cumulative TPHg Recovery (pounds) 7,902
Cumulative TPHg Recovery (gallons) 1,300

Notes:

- SVE Soil vapor extraction and treatment system - 250 cfm thermal/ lcatalytic oxidizer (thermox)
Influent Air sample collected from thermox influent
Total Ops Time thermox cumulative site operational hours
Period Ops Time Operational period: number of system operating hours since last influent air sampling
TPHg Total Petroleum Hydrocarbons as gasoline EPA Method 8260B
mg/m³ Milligrams per cubic meter
<### Compound not detected at or below the reported laboratory detection limit
Vacuum Vacuum applied to well manifold
in. w.c. Inches water column
Flow Process volumetric flow (Q) measured with a flow averaging pitot tube
scfm Standard cubic feet per minute
lb Pound
TPHg Yield Approximate TPHg yield (lb/hr) based on influent analytical data and air flow (Q) for a given date
Yield (lbs. Influent concentration (mg/m³) x Q (scfm) x (m³/35.31 ft³) x 1440 min/day x lb/453,592 mg
Yield (lbs. Influent concentration (mg/m³) x Q (scfm) x 8.9908 E-5
Avg. TPHg Yield Average hydrocarbon yield during a given operational period;
based upon arithmetic average of TPHg yield at beginning and end of operational period.
Period Yield The Period Ops Time (hr) x Average TPHg yield (lbs/hr) during that period.
Note that this value is an approximation only, and may not account for daily fluctuations in yield.

Cumulative Recovery: Estimated Estimated total SVE system TPHg recovery since startup.

Table 5
SVE System APCD Compliance Data
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Bliss Rock Project No. NC-24

APCD Permit Requirements:	Sample Date	Ops Time (hr)	TPHg (mg/m³)	TPHg DE (%)	Flow (scfm)	Daily Emissions Rate		
						TPHg (lb/day)	TPHg (lb/day)	
Influent	7/6/04	N/A	N/A	>95%	<250	219.12		
Effluent	7/6/04	3.50	4,600	23	99.5%	158	0.33	
Influent	7/7/04	N/A	2,700	<20	99.3%	194	0.35	
Effluent	7/7/04	21	260	82.7%	182	4.25		
Influent	7/8/04	N/A	1,500	<20	96.7%	178	0.69	
Effluent	7/8/04	47	43	96.7%	178	0.69		
Influent	7/15/04	N/A	930	<20	97.8%	183	0.33	
Effluent	7/15/04	217	<20	97.8%	183	0.33		
Influent	7/22/04	N/A	970	<20	97.9%	237	0.43	
Effluent	7/22/04	386	<20	97.9%	237	0.43		
Influent	7/29/04	N/A	1,200	<20	98.3%	199	0.36	
Effluent	7/29/04	553	<20	98.3%	199	0.36		
Influent	8/26/04	N/A	3,000	<20	99.3%	150	0.27	
Effluent	8/26/04	1,150	<20	99.3%	150	0.27		
Influent	9/22/04	N/A	2,300	<20	95.7%	118	1.06	
Effluent	9/22/04	1,793	100	95.7%	118	1.06		
Influent	10/14/04	N/A	2,700	<20	99.3%	257	0.46	
Effluent	10/14/04	2,322	<20	99.3%	257	0.46		
Influent	11/17/04	N/A	6,900	<20	99.7%	140	0.25	
Effluent	11/17/04	3,000	<20	99.7%	140	0.25		
Influent	12/21/04	N/A	3,430	4,200	<20	99.5%	180	0.32
Effluent	12/21/04	N/A	<20	99.5%	180	0.32		
Influent	1/17/05	N/A	4,016	280	<20	92.9%	222	0.40
Effluent	1/17/05	N/A	<20	92.9%	222	0.40		
Influent	2/7/05	N/A	4,471	1,600	28	98.3%	207	0.52
Effluent	2/7/05	N/A	28	98.3%	207	0.52		
Influent	3/17/05	N/A	4,505	400	<20	95.0%	262	0.47
Effluent	3/17/05	N/A	<20	95.0%	262	0.47		
Influent	3/18/05	N/A	4,533	1,000	<20	98.0%	282	0.51
Effluent	3/18/05	N/A	<20	98.0%	282	0.51		
Influent	3/21/05	N/A	4,557	1,000	24	97.6%	268	0.58
Effluent	3/21/05	N/A	24	97.6%	268	0.58		
Influent	3/22/05	N/A	4,565	1,500	27	98.2%	252	0.61
Effluent	3/22/05	N/A	27	98.2%	252	0.61		
						Avg. TPHg DE (%)	Avg. Daily Emissions TPHg (lb/day)	
						97.0%	204	
							0.68	

System Operations/Emissions In Compliance: YES

NOTES:
SVE Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (thermox)
Influent Air sample collected from catox influent
Effluent Air sample collected from catox effluent (exhaust)
Ops Time catox cumulative site operational hours
TPHg Total Petroleum Hydrocarbons as gasoline by EPA Method #260B
mg/m³ Milligrams per cubic meter
<20 Compound not detected at or below the reported laboratory detection limit
Avg. Average (averages based on monthly and startup data)
Flow Process volumetric flow (Q) measured with a flow averaging pitot tube
scfm Standard cubic feet per minute
lb Pound
TPHg DE TPHg (laboratory analyzed) destruction efficiency based on equation :
TPHg DE = (influent concentration TPHg - effluent concentration TPHg)/influent concentration TPHg x 100
Emissions Rate Analyte Emissions Rate (lb/day) based upon effluent analytical data and air flow volume (Q) for a given date
Emiss. Rate = Effluent concentration (mg/m³) x Q (scfm) x (m³/35.31 ft³) x 1440 min/day x lb/455,592 mg
Emiss. Rate = Effluent concentration (mg/m³) x Q (scfm) x 8.9908 E-5

Table 6
CALCULATIONS FOR HYDROCARBON EMISSIONS
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
McKinleyville, CA
Blue Rock Project No. NC - 24

Conversion of Contaminant Concentrations from mg/m³ to ppm

Sample ID	TPHg (mg/m ³)	TPHg (ppmv)	Benzene (mg/m ³)	Benzene (ppmv)	Toluene (mg/m ³)	Toluene (ppmv)	Ethylbenz. (mg/m ³)	Ethylbenz. (ppmv)	Xylenes (mg/m ³)	Xylenes (ppmv)
EFF 7/6/04	23	5.4	0.2	0.05	0.26	0.063	0.2	0.05	0.2	0.05
EFF 7/7/04	20	5	0.2	0.05	0.2	0.05	0.2	0.05	0.2	0.05
EFF 7/8/04	260	61	0.24	0.068	4.70	1.15	6.4	1.36	27.0	5.81
EFF 7/9/04	43	10	0.2	0.05	0.63	0.15	0.79	0.17	3.9	0.82
EFF 7/15/04	20	5	0.2	0.05	0.20	0.05	0.24	0.051	1.3	0.28
EFF 7/22/04	20	5	0.2	0.05	0.20	0.05	0.2	0.05	0.7	0.14
EFF 7/29/04	20	5	0.2	0.05	0.20	0.05	0.2	0.05	0.5	0.095
EFF 8/26/04	20	5	0.2	0.05	0.35	0.084	0.2	0.05	0.4	0.100
EFF 9/22/04	100	24	0.2	0.063	2.60	0.64	1.2	0.24	6.9	1.5
EFF 10/14/04	20	5	0.2	0.050	0.20	0.05	0.2	0.05	0.2	0.05
EFF 11/17/04	20	5	0.2	0.050	0.20	0.05	0.2	0.05	0.2	0.05
EFF 12/21/04	54	13	0.32	0.093	0.66	0.16	0.2	0.05	0.22	0.05
EFF 1/17/05	20	5	0.20	0.050	0.50	0.05	0.2	0.05	0.20	0.05
EFF 2/7/05	28	6.5	0.20	0.050	0.31	0.075	0.2	0.05	0.2	0.05
EFF 3/17/05	20	5.0	0.20	0.050	0.20	0.050	0.2	0.05	0.2	0.05
EFF 3/18/05	20	5.0	0.20	0.050	0.20	0.050	0.2	0.05	0.2	0.05
EFF 3/21/05	24	6.2	0.20	0.050	0.46	0.120	0.2	0.05	0.2	0.05
EFF 3/22/05	27	6.8	0.20	0.050	0.34	0.090	0.2	0.05	0.2	0.05

Calculation of Contaminant Effluent Rates

Q2 (scfm)	A	B1	B2	B3	B4	B5	C	D	E1	E2	E3	E4	E5
	TPHg	Benzene	Toluene	Ethylbenz.	Xylenes	ppmv/1,000,000	conversion (min/day)	conversion 1/360	TPHg (mw) (lb/mol)	Benz (mw) (lb/mol)	Toluene (mw) (lb/mol)	Ethylbenz mw(lb/mol)	Xylenes mw(lb/mol)
EFF 7/6/04	158	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 7/7/04	197	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 7/8/04	182	0.00006	0.0000001	0.0000011	0.00000136	0.00000581	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 7/9/04	178	0.00001	0.0000001	0.0000002	0.00000017	0.00000082	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 7/15/04	183	0.00001	0.0000001	0.0000000	0.00000005	0.00000028	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 7/22/04	237	0.00001	0.0000001	0.0000000	0.00000005	0.00000014	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 7/29/04	199	0.00001	0.0000001	0.0000000	0.00000005	0.00000009	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 8/26/04	150	0.00001	0.0000001	0.0000001	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 9/22/04	118	0.00002	0.0000001	0.0000006	0.00000024	0.00000153	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 10/14/04	257	0.00001	0.0000001	0.0000000	0.00000005	0.00000005	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 11/17/04	140	0.00001	0.0000001	0.0000000	0.00000005	0.00000005	1440	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 12/21/04	180	0.00001	0.0000001	0.0000002	0.00000005	0.00000005	1441	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 1/17/05	222	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1442	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 2/7/05	207	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1443	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 3/17/05	262	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1444	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 3/18/05	282	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1445	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 3/21/05	268	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1446	0.0028	86.2	78.1	106.2	92.1	106.2
EFF 3/22/05	252	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	1447	0.0028	86.2	78.1	106.2	92.1	106.2

Table 6
CALCULATIONS FOR HYDROCARBON EMISSIONS

ATC Permit # NAC - 380

Former Central BP

2160 Central Ave.

McKinleyville, CA

Blue Rock Project No. NC - 24

Hydrocarbons Emissions:					
	TPH (lb/day)	Benzene (lb/day)	Toluene (lb/day)	Ethylbenzene (lb/day)	Xylenes (lb/day)
EFF 7/6/04	0.29	0.0001	0.004	0.003	0.003
EFF 7/7/04	0.34	0.0002	0.004	0.003	0.004
EFF 7/8/04	3.83	0.0002	0.089	0.091	0.449
EFF 7/9/04	0.61	0.0002	0.012	0.011	0.062
EFF 7/15/04	0.32	0.0002	0.004	0.003	0.022
EFF 7/22/04	0.41	0.0002	0.005	0.004	0.014
EFF 7/29/04	0.34	0.0002	0.004	0.004	0.008
EFF 8/26/04	0.26	0.0001	0.005	0.003	0.006
EFF 9/22/04	0.98	0.0001	0.032	0.011	0.077
EFF 10/14/04	0.44	0.0002	0.005	0.005	0.005
EFF 11/17/04	0.24	0.0001	0.003	0.002	0.003
EFF 12/21/04	0.81	0.0003	0.012	0.003	0.004
EFF 1/17/05	0.38	0.0002	0.005	0.004	0.004
EFF 2/7/05	0.46	0.0002	0.007	0.004	0.004
EFF 3/17/05	0.45	0.0002	0.006	0.005	0.005
EFF 3/18/05	0.49	0.0003	0.006	0.005	0.006
EFF 3/21/05	0.58	0.0003	0.014	0.005	0.005
EFF 3/22/05	0.59	0.0002	0.010	0.004	0.005

Calculations:

$$\text{TPHg (ppmv)} = \text{TPHg (mg/m}^3\text{)} / 3$$

$$\text{Benzene (ppmv)} = \text{Benzene (mg/m}^3\text{)} / 3$$

$$\text{Toluene (ppmv)} = \text{Toluene (mg/m}^3\text{)} / 3.75$$

$$\text{Ethylbenzene (ppmv)} = \text{Ethylbenzene (mg/m}^3\text{)} / 4.35$$

$$\text{Xylenes (ppmv)} = \text{Xylenes (mg/m}^3\text{)} / 4.35$$

$$\text{TPHg (lb/day)} = A * B1 * C * D * E1$$

$$\text{Benzene (lb/day)} = A * B2 * C * D * E2$$

$$\text{Toluene (lb/day)} = A * B3 * C * D * E3$$

$$\text{Ethylbenzene (lb/day)} = A * B4 * C * D * E4$$

$$\text{Xylenes (lb/day)} = A * B5 * C * D * E5$$

where:

A: flow rate in standard cubic feet per minute (scfm)

B1: (Concentration of TPHg in ppmv)/1,000,000

B2: (Concentration of Benzene in ppmv)/1,000,000

B3: (Concentration of Toluene in ppmv)/1,000,000

B4: (Concentration of Ethylbenzene in ppmv)/1,000,000

B5: (Concentration of Xylenes in ppmv)/1,000,000

C: Conversion from minutes to day

D: Conversion for standard conditions (Assume Ideal Gas Law holds true)

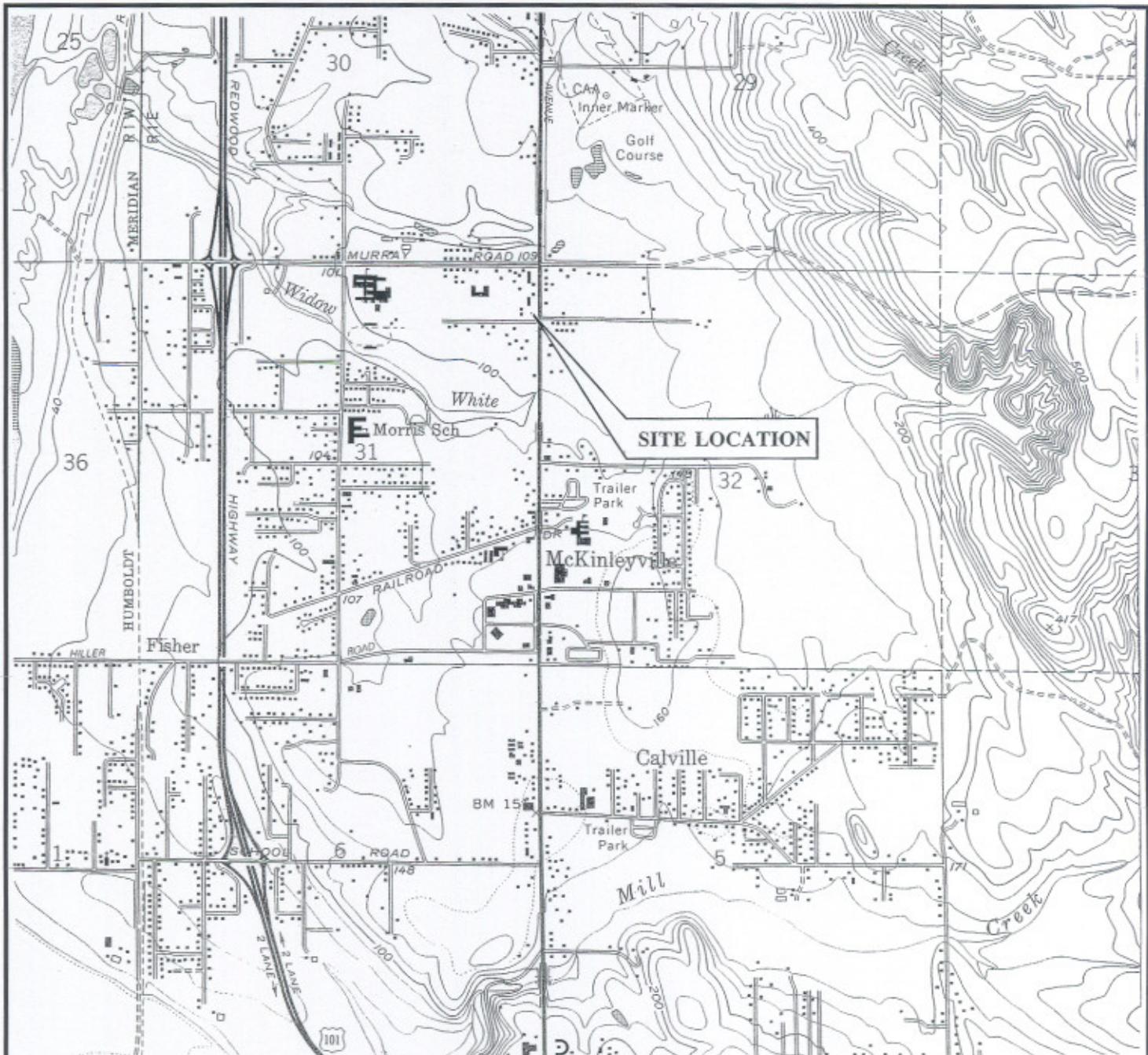
E1: Molecular weight of TPHg - 86.2 lb/lb-mol

E2: Molecular weight of Benzene - 78.1 lb/lb-mol

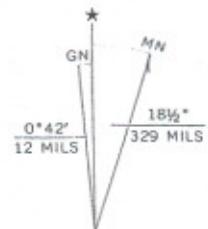
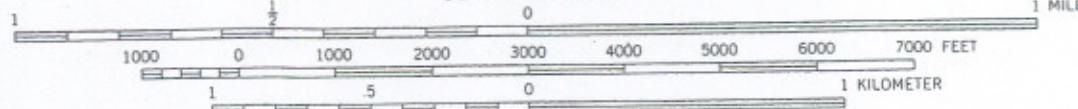
E3: Molecular weight of Toluene - 106.2 lb/lb-mol

E4: Molecular weight of Ethylbenzene - 92.1 lb/lb-mol

E5: Molecular weight of Xylenes - 106.2 lb/lb-mol



SCALE 1:24 000



CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS

DATUM IS MEAN SEA LEVEL

SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 4 FEET

UTM GRID AND 1972 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

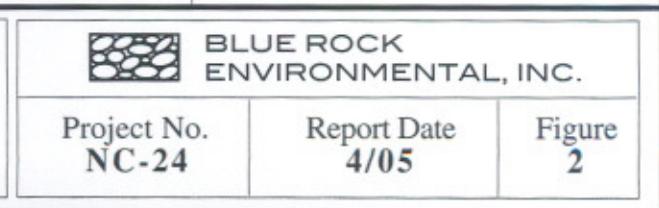
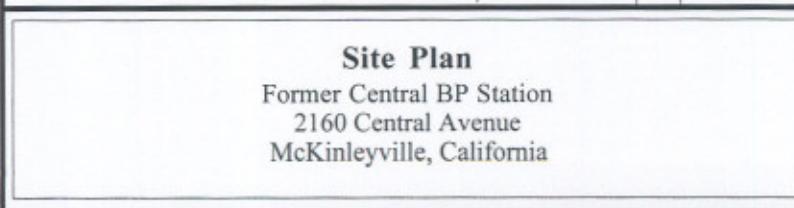
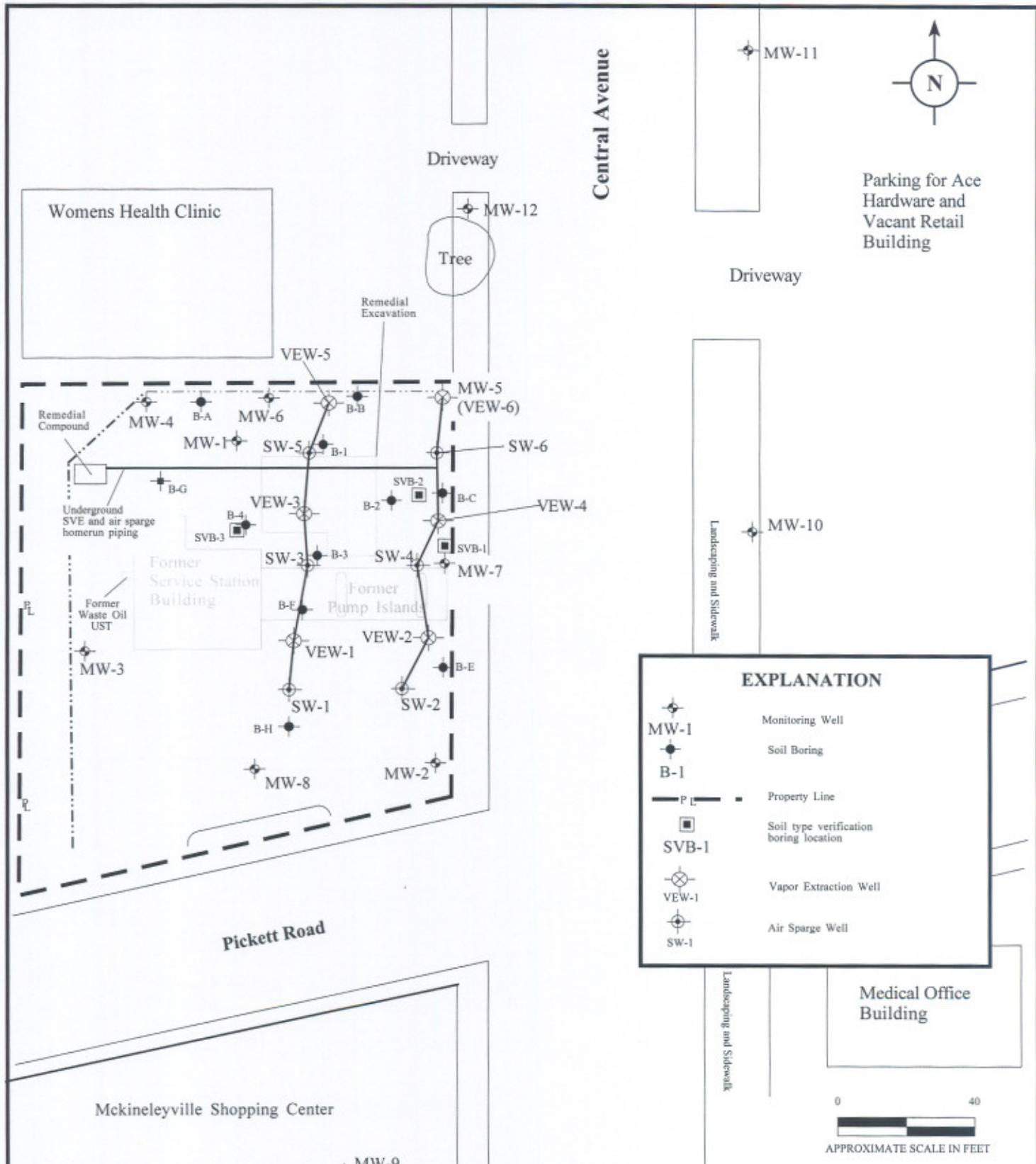
Site Location Map
Former Central BP Station
2160 Central Avenue
McKinleyville, California

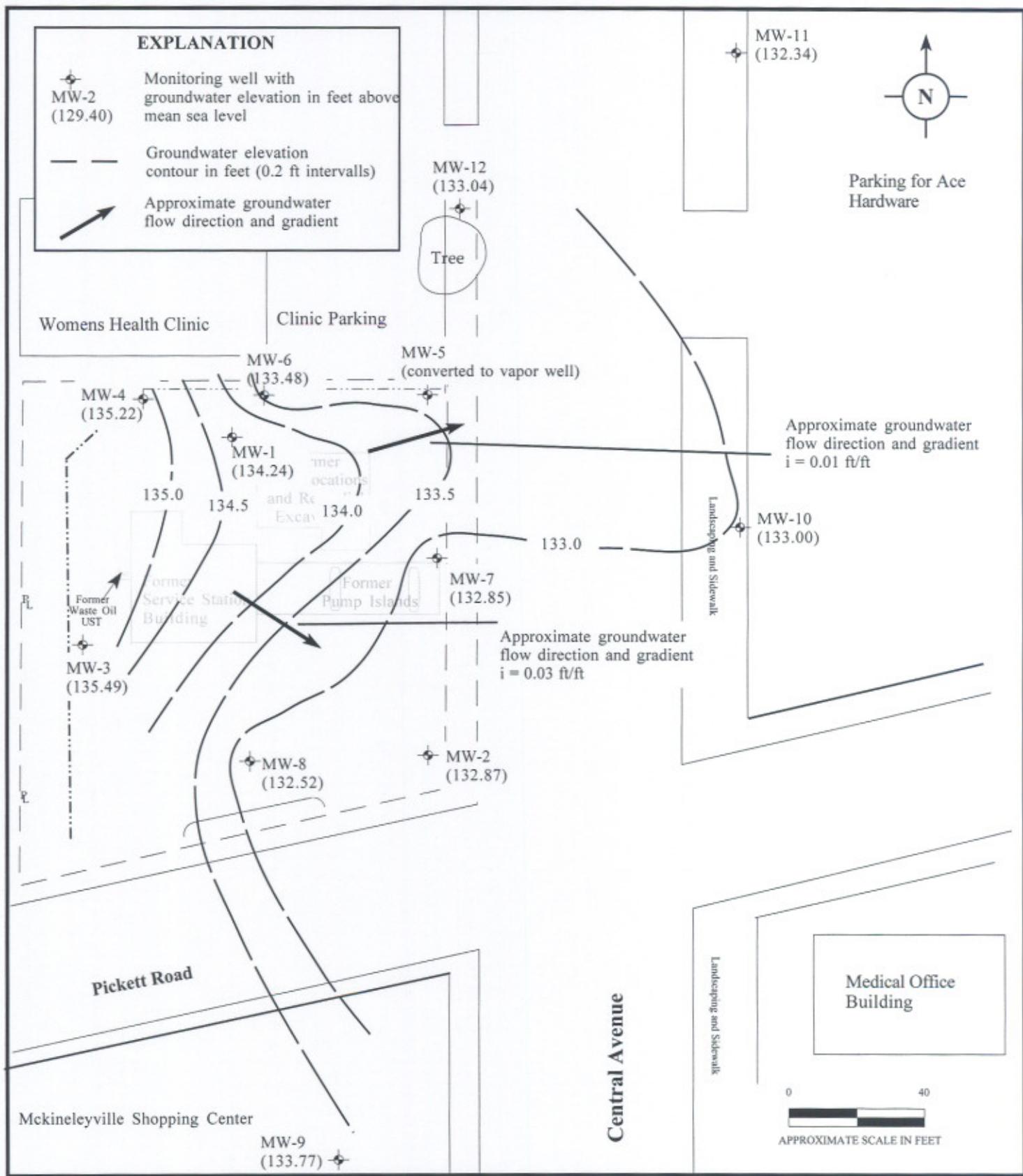
 BLUE ROCK
ENVIRONMENTAL, INC.

Project No.
NC-24

Date
4/05

Figure
1





Groundwater Elevation and Gradient -3/27/05

Former Central BP Station
2160 Central Avenue
McKinleyville, California

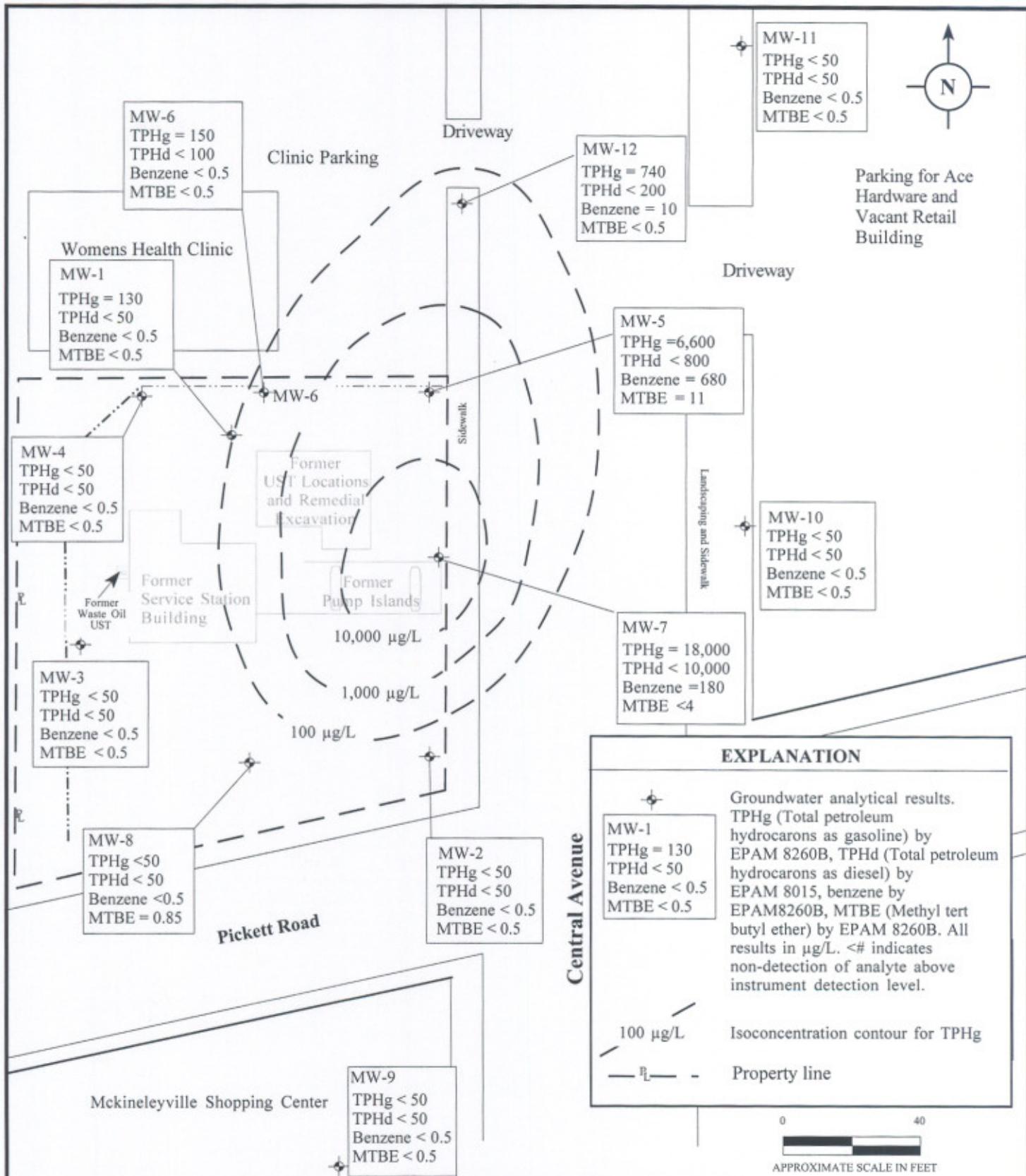


**BLUE ROCK
ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
4/05

Figure
3

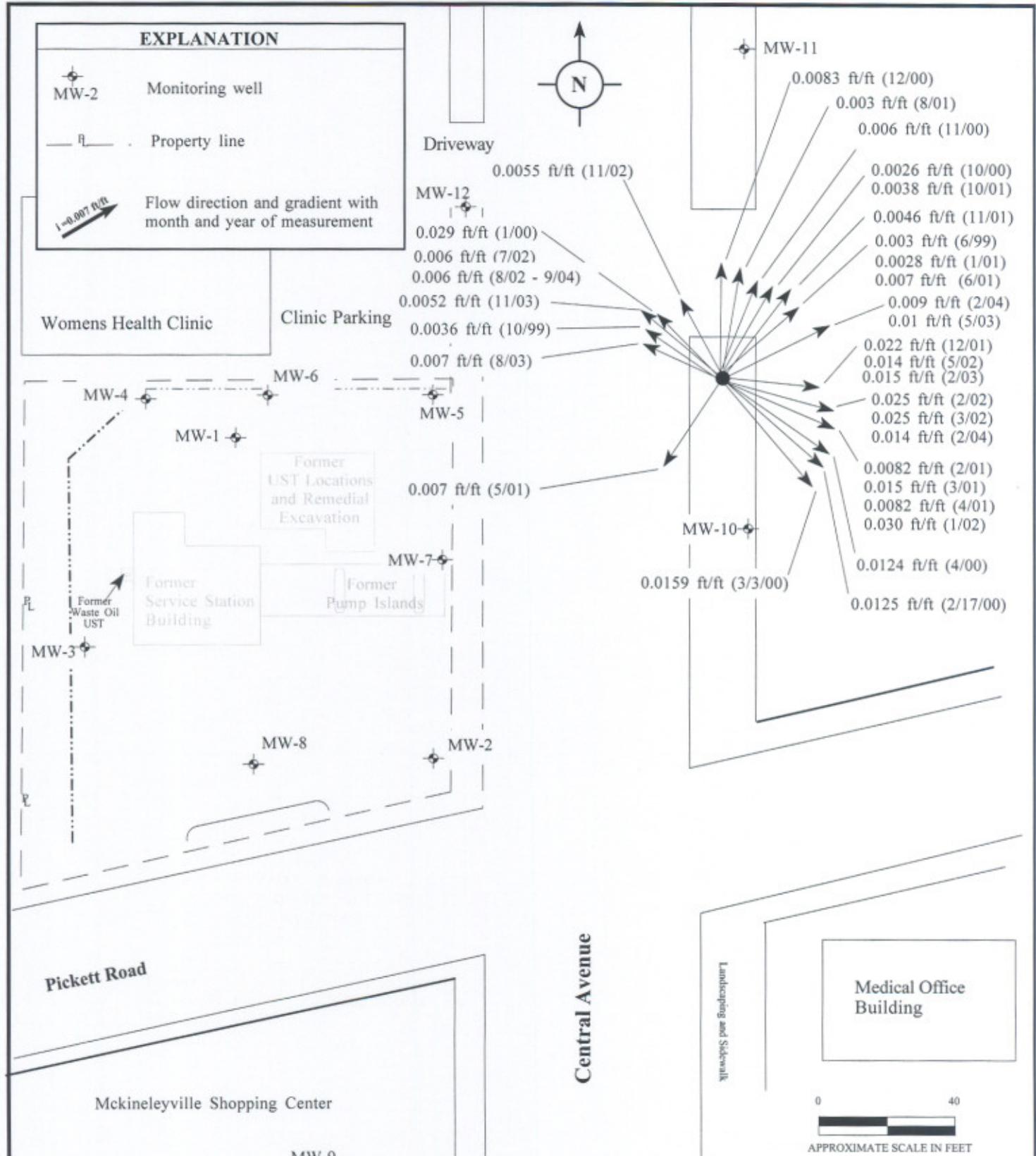


Dissolved-Phase Hydrocarbon (TPHg) Distribution 3/27/05 - 3/28/05

Former Central BP Station
2160 Central Avenue
McKinleyville, California

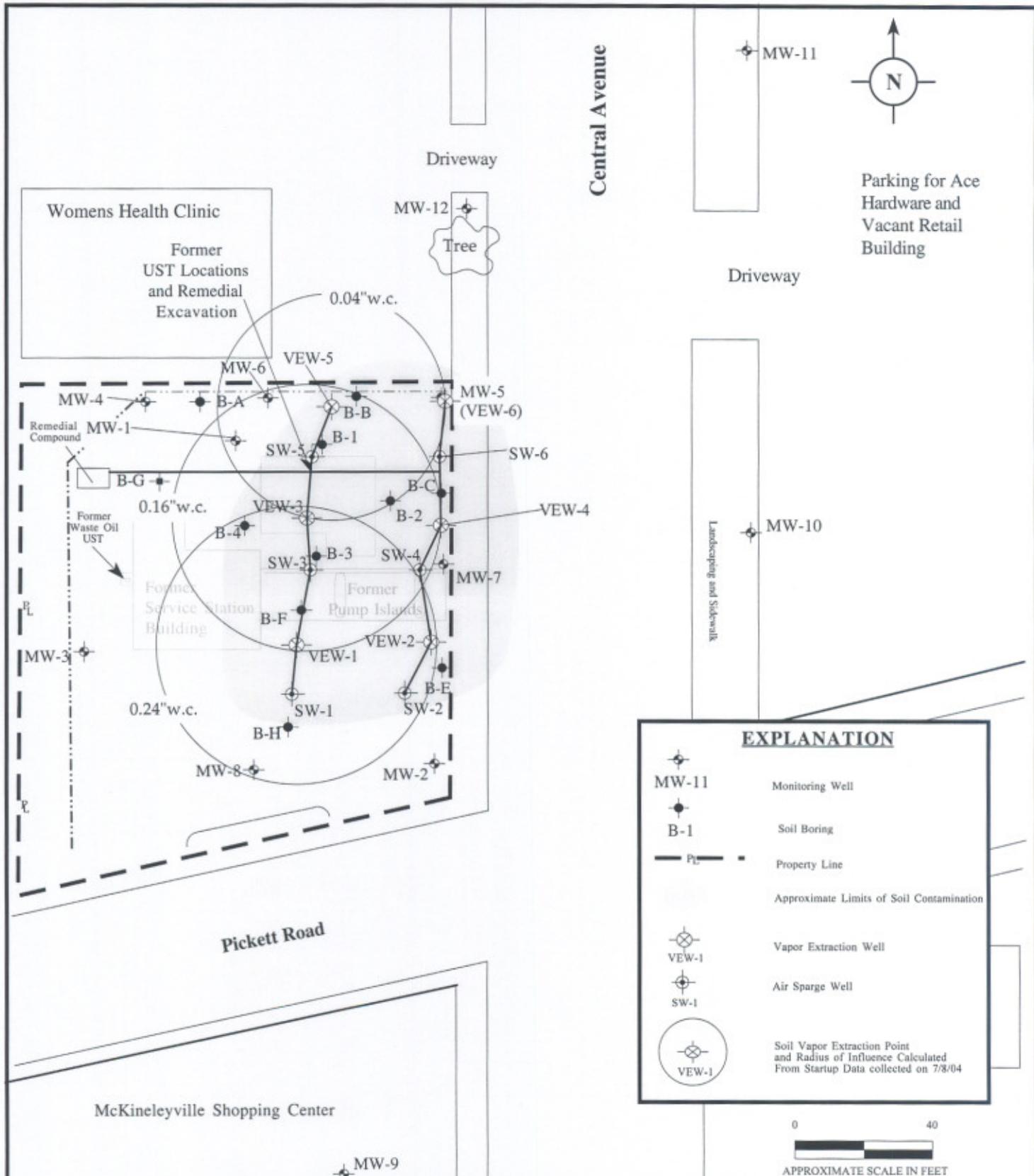
 BLUE ROCK ENVIRONMENTAL, INC.

Project No. NC-24	Report Date 4/05	Figure 4
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Cumulative Flow Direction and Gradient 6/99 to 3/05
 Former Central BP Station
 2160 Central Avenue
 McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.	Project No. NC-24	Report Date 4/05	Figure 5
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SVE Layout and Radius of Influence (VEW1, 3, 5)

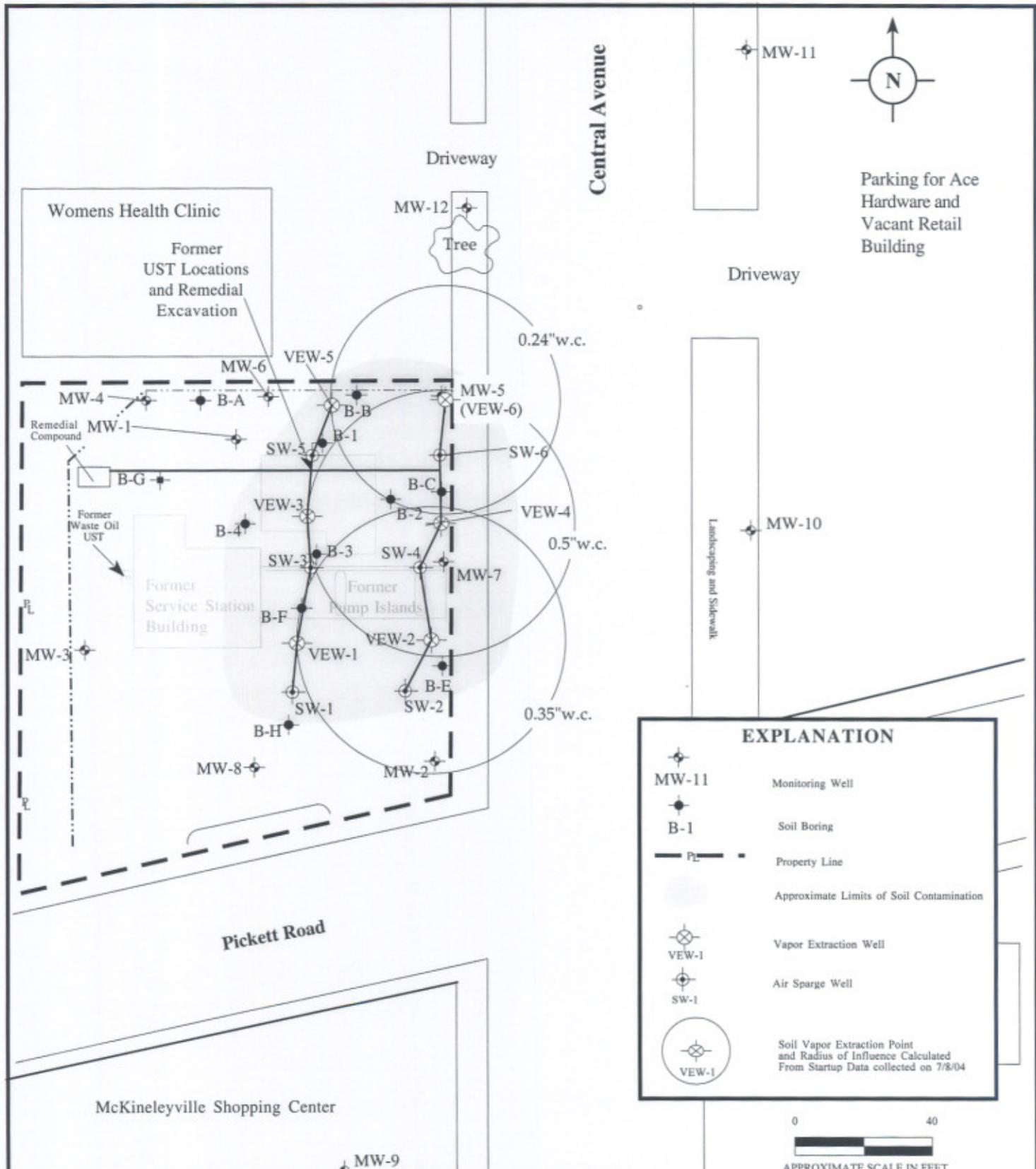
Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK
ENVIRONMENTAL, INC.

Project No.
NC-24

Report Date
4/05

Figure
6a



SVE Layout and Radius of Influence (VEW2,4,6)

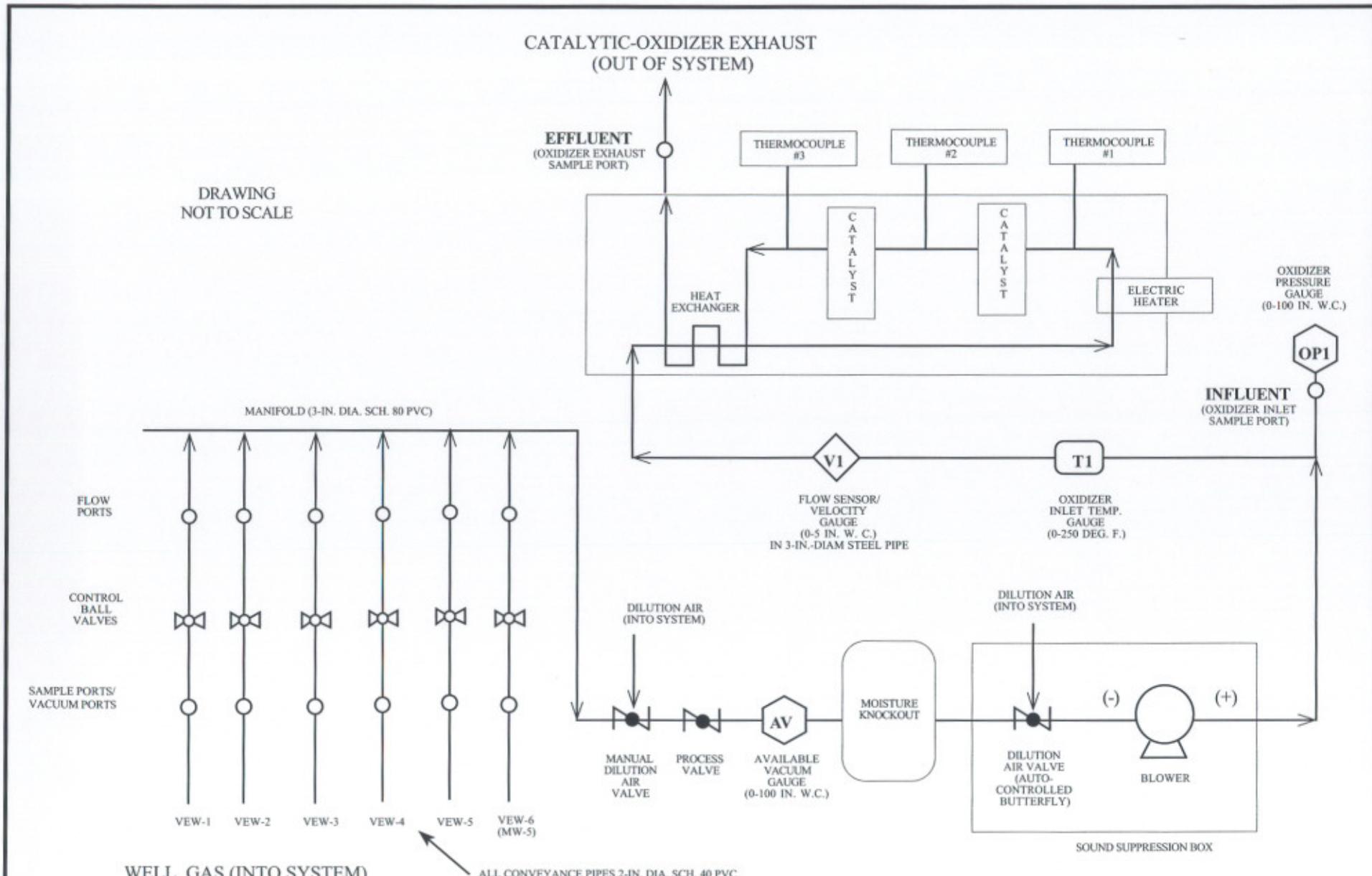
Former Central BP Station
2160 Central Avenue
McKinleyville, California

 **BLUE ROCK ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
4/05

Figure
6b



CATOX AND WELL MANIFOLD SCHEMATIC

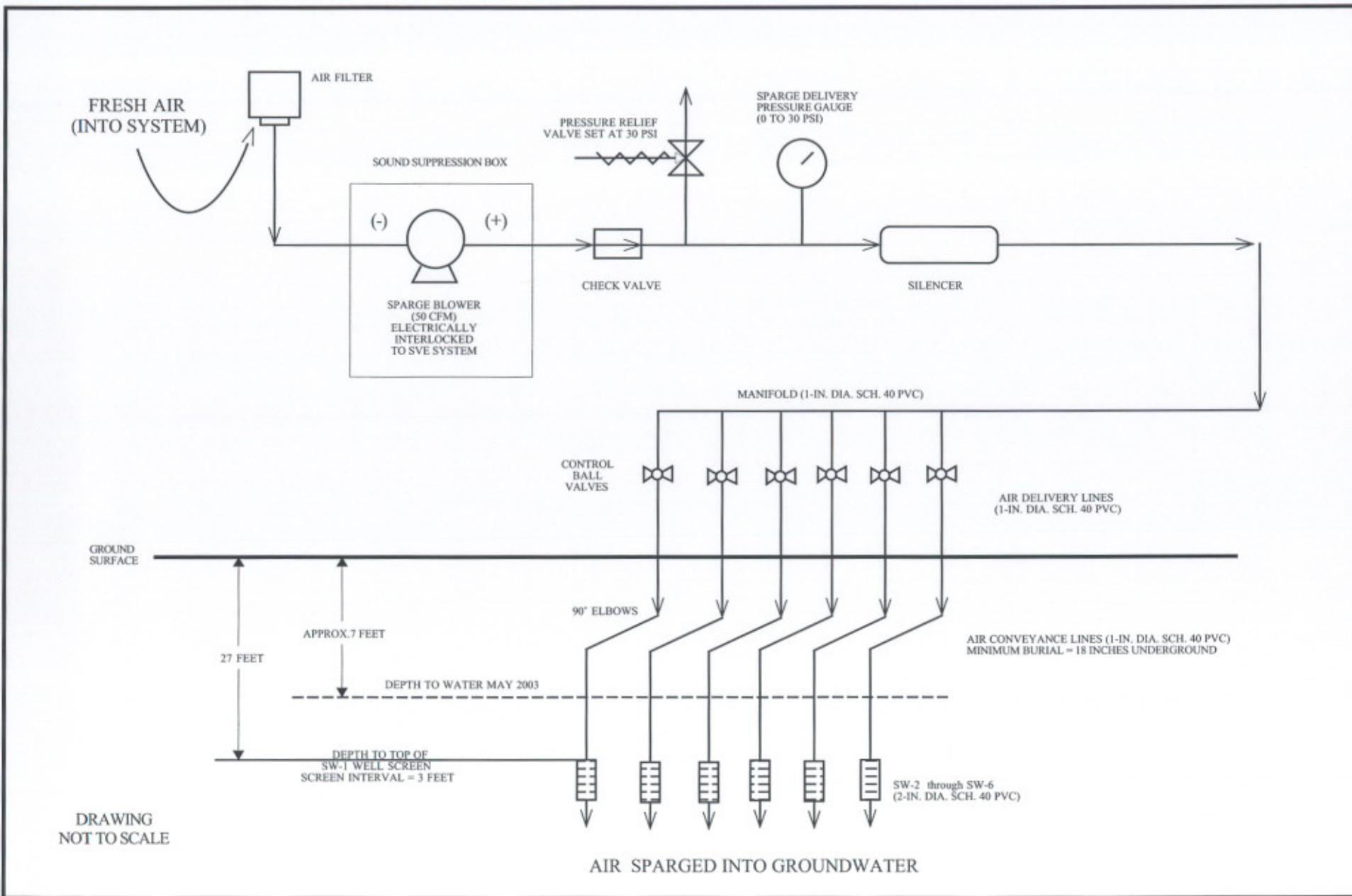
Former Central BP Station
2616 Central Avenue
McKinleyville, California

 **BLUE ROCK ENVIRONMENTAL, INC.**

Project No.
NC-24

Report Date
4/05

Figure
7



SPARGE BLOWER AND WELL MANIFOLD SCHEMATIC

Former Central BP Station
2616 Central Avenue
McKinleyville, California

 BLUE ROCK ENVIRONMENTAL, INC.

Project No.
NC-24

Report Date
4/05

Figure
8

**Former McKinleyville BP
REMEDIATION SYSTEM O&M FORM**

DATE	11/17/05
TECH.	IAZ

	ARRIVAL	DEPARTURE	
Time	14:00	15:00	
SYSTEM STATUS	up	up	(up/down)
Manual Dilution Valve Position	—	—	% open
Vacuum (AV)	20	20	in. H ₂ O
TPH Concentration In (Influent)	72+		ppm
Well + Dilution Air Flow Rate (V1)	222		scfm
Oxidizer Pressure (OP1)	—	—	in. H ₂ O
Temperature Controller (T1)	767		°F
Recirculation valve position	2	2	# Turns open
TPH Concentration Out (Effluent)	0	0	ppm
Unit Operational Time	9016		hours

	CHECKED	REPLACED
SVE Blower Filter	✓	
Separator Liquid level	✓	
Sparge Air Compressor Filter	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H ₂ O	depth to water feet	valve position % open	OVM reading ppm
VE-1	0	≈ 15	0	
VE-2	0	—	0	
VE-3	40	—	25	100+
VE-4	45	—	—	500+
VE-5	45	—	—	400+
VE-6	40	—	—	200+

Air Sparging Wells	sparge press. in. H ₂ O	depth to water feet	valve position % open
SW-1			0
SW-2			—
SW-3			—
SW-4			—
SW-5			—
SW-6			—

Remarks: _____

Water Drums Onsite _____

Former McKinleyville BP
REMEDIATION SYSTEM O&M FORM

DATE	11/7/05
TECH.	AC

	ARRIVAL	DEPARTURE	
Time			
SYSTEM STATUS	UP		(up/down)
Manual Dilution Valve Position	—	—	% open
Vacuum (AV)	15	15	in. H2O
TPH Concentration In (Influent)	207	200	ppm
Well + Dilution Air Flow Rate (V1)	216	220	scfm
Oxidizer Pressure (OP1)	—	—	in. H2O
Temperature Controller (TI)	725		°F
Recirculation valve position	1.5	1.5	# Turns open
TPH Concentration Out (Effluent)	0	0	ppm
Unit Operational Time	04/71	4472	hours

	CHECKED	REPLACED
SVE Blower Filter	✓	
Separator Liquid level	✓	
Sparge Air Compressor Filter	✓	
Blower Oil	✓	✓

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open	OVM reading ppm
VE-1	0	≈ 15'	0	
VE-2	0		0	
VE-3			100	150
VE-4			100	200
VE-5		↓	100	110
VE-6		↓	100	150

Air Sparging Wells	sparge press. in. H2O	depth to water feet	valve position % open
SW-1	2 cfm	≈ 15	100
SW-2	3 cfm		100
SW-3	1.5 cfm	↓	
SW-4	2.5 cfm	↓	
SW-5	2 cfm	↓	✓
SW-6	2 cfm	↓	

5PSI
↓

Remarks:

Water Drums Onsite

Former McKinleyville BP
REMEDIATION SYSTEM O&M FORM

DATE	2/14/05
TECH.	AL

	ARRIVAL	DEPARTURE	
Time			
SYSTEM STATUS	down	up	(up/down)
Manual Dilution Valve Position	0	0	% open
Vacuum (AV)	0	30	in. H2O
TPH Concentration In (Influent)			ppm
Well + Dilution Air Flow Rate (V1)	0	262	scfm
Oxidizer Pressure (OP1)	—	—	in. H2O
Temperature Controller (T1)	0	743	°F
Recirculation valve position	—	1-5	# Turns open
TPH Concentration Out (Effluent)			ppm
Unit Operational Time		450.5	hours

	CHECKED	REPLACED
SVE Blower Filter	✓	
Separator Liquid level	✓	
Sparge Air Compressor Filter	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open	OVM reading ppm
VE-1	0	=15	0	
VE-2	0		0	
VE-3	40	✓	50	
VE-4	✓	✓	✓	
VE-5	✓	✓	✓	
VE-6	✓	✓	✓	

Air Sparging Wells	sparge press. in. H2O	depth to water feet	valve position % open
SW-1	5 /2	=15	
SW-2	✓		
SW-3	✓		
SW-4	✓		
SW-5	✓	✓	
SW-6	✓	✓	

Remarks:

restart after blower/elect. motor replacement

Water Drums Onsite

Former McKinleyville BP
REMEDIATION SYSTEM O&M FORM

DATE	3/18/05
TECH.	AC

	ARRIVAL	DEPARTURE	
Time	1430	1530	
SYSTEM STATUS	up	up	(up/down)
Manual Dilution Valve Position	0	0	% open
Vacuum (AV)	35	30	in. H2O
TPH Concentration In (Influent)			ppm
Well + Dilution Air Flow Rate (V1)	282	282	scfm
Oxidizer Pressure (OP1)	—	—	in. H2O
Temperature Controller (T1)	758	753	°F
Recirculation valve position	1.5	1.5	# Turns open
TPH Concentration Out (Effluent)			ppm
Unit Operational Time	4533		hours

	CHECKED	REPLACED
SVE Blower Filter	✓	
Separator Liquid level	✓	
Sparge Air Compressor Filter	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open	OVM reading ppm
VE-1	0	15	0	
VE-2	0	1	0	
VE-3	40	1	100	
VE-4				
VE-5				
VE-6	↓	↓	↓	

Air Sparging Wells	sparge press. in. H2O	depth to water feet	valve position % open
SW-1			0
SW-2			100
SW-3			
SW-4			
SW-5			
SW-6			

Remarks:

Water Drums Onsite

Former McKinleyville BP
REMEDIATION SYSTEM O&M FORM

DATE	3/21/05
TECH.	AL

	ARRIVAL	DEPARTURE	
Time			
SYSTEM STATUS	up	up	(up/down)
Manual Dilution Valve Position	0	0	% open
Vacuum (AV)	22	22	in. H2O
TPH Concentration In (Influent)			ppm
Well + Dilution Air Flow Rate (V1)	268		scfm
Oxidizer Pressure (OP1)	-	-	in. H2O
Temperature Controller (T1)	683	755	°F
Recirculation valve position	1.5	1.5	# Turns open
TPH Concentration Out (Effluent)			ppm
Unit Operational Time	4557		hours

	CHECKED	REPLACED
SVE Blower Filter	✓	
Separator Liquid level	✓	
Sparge Air Compressor Filter	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open	OVM reading ppm
VE-1	0		0	
VE-2	0		0	
VE-3	40		100	
VE-4	↓		1	
VE-5	↓		↓	
VE-6	↓		↓	

Air Sparging Wells	sparge press. in. H2O	depth to water feet	valve position % open
SW-1	0		0
SW-2	0		100
SW-3			
SW-4			
SW-5	↓		↓
SW-6	↓		↓

Remarks: _____

Water Drums Onsite _____

Former McKinleyville BP
REMEDIATION SYSTEM O&M FORM

DATE	3/22/05
TECH.	<i>(AI)</i>

	ARRIVAL	DEPARTURE	
Time	1420		
SYSTEM STATUS	down	up	(up/down)
Manual Dilution Valve Position	0	0	% open
Vacuum (AV)	20	20	in. H2O
TPH Concentration In (Influent)			ppm
Well + Dilution Air Flow Rate (V1)	252		scfm
Oxidizer Pressure (OP1)	—	—	in. H2O
Temperature Controller (T1)	689	723	°F
Recirculation valve position	1.5	1.5	# Turns open
TPH Concentration Out (Effluent)			ppm
Unit Operational Time	4565	4566	hours

	CHECKED	REPLACED
SVE Blower Filter	✓	
Separator Liquid level	✓	
Sparge Air Compressor Filter	✓	
Blower Oil	✓	

Extraction Wells	Vac. in. H2O	depth to water feet	valve position % open	OVM reading ppm
VE-1	02		0	
VE-2	02		0	
VE-3	40			
VE-4	↓			
VE-5				
VE-6	↓			

Air Sparging Wells	sparge press. in. H2O	depth to water feet	valve position % open
SW-1	0		0
SW-2	2		100
SW-3	↓		
SW-4			
SW-5	↓		
SW-6			

Remarks:

Down due to power outage 3/22/05

Water Drums Onsite

GAGING DATA/PURGE CALCULATIONS

Job No.: NC-24 Location: 2160 Central Avenue, Minneapolis Date: 3-27-05 Tech(s): Soft Robertson

Explanation:

DIA. = Well Diameter

DTB = Depth to Bottom

DTW = Depth to Water

ST = Saturated Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV,

SPH = Thickness of Separate Phase Hydrocarbons

Conversion Factors (cf):

2 in. dia. well cf = 0.16 gal./ft.

4 in. dia. well cf = 0.65 gal./ft.

6 in. dia. well cf = 1.44 gal./ft.



BLUE ROCK
ENVIRONMENTAL, INC.

PURGING DATA

SHEET OF

Job No.: NC-241 Location: 2160 Central Ave. Date: 3/28/05 Tech: M. Richard AL

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-7		0	---	---	---	Sample for:
Calc. purge volume	13:40	880	75	56.7	6.79	TPHg TPHd 8260
	13:45	880	77	56.7	6.77	BTEX MTBE 5-Oxygenates
2.64	13:50	880	76	56.9	6.63	Purging Method:
	14:00	880	77	56.9	6.60	PVC bailer Pump/Disposable Bailer
COMMENTS: color, turbidity, recharge, sheen, odor						Sampling Method:
brn/mod turb / good rech/no Sheen/ H2S odor						Dedicated Disposable bailer

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
Calc. purge volume		0	---	---	---	Sample for:
						TPHg TPHd 8260
						BTEX MTBE 5-Oxygenates
						Purging Method:
						PVC bailer/Pump/Disposable Bailer
<u>COMMENTS:</u> color, turbidity, recharge, sheen, odor					Sampling Method:	
					Dedicated / Disposable bailer	
					Sample at:	

WELL PURGING DATA

SHEET OF

Job No.: NC-24 Location: 2160 central Ave, Milpitas Date: 3-27-05 Tech: Scott Robertson

WELL No.	TIME	VOLUME (gal.)	TEMP. (deg. F.)	COND. ($\mu\text{S}/\text{cm}$)	pH	
MW-12	1434	1.25	57.0	144	6.85	Sample for: (circle)
Calc. purge volume	1436	2.50	58.8	155	6.86	<input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd 8010
	1438	3.75	59.1	168	6.83	<input checked="" type="checkbox"/> BTEX Other MTBE
5.43	1439	5.43	58.9	170	6.81	Purging Method: PVC bailer X Pump
						Sampling Method: Dedicated / <input checked="" type="checkbox"/> Disposable bailer
						COMMENTS: color, turbidity, recharge, sheen <i>brown, low, good</i>

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-4	1503	1	88	56.6	6.85	Sample for:
Calc. purge volume	1504	2	84	56.3	6.82	<input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd 8010
	1506	3	85	56.3	6.83	<input checked="" type="checkbox"/> BTEX Other MTBE
4.02	1508	4	79	56.2	6.80	Purging Method: PVC bailer X Pump
						Sampling Method: Dedicated / <input checked="" type="checkbox"/> Disposable bailer
						COMMENTS: color, turbidity, recharge, sheen <i>brown, low, good</i>

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-1	1525	.75	75	57.8	6.81	Sample for:
Calc. purge volume	1526	1.50	71	58.5	6.80	<input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd 8010
	1527	2.25	73	58.5	6.85	<input checked="" type="checkbox"/> BTEX Other MTBE
2.82	1528	2.82	75	58.6	6.86	Purging Method: PVC bailer X Pump
						Sampling Method: Dedicated / <input checked="" type="checkbox"/> Disposable bailer
						COMMENTS: color, turbidity, recharge, sheen <i>brown, low, good</i>

WELL PURGING DATA

SHEET OF

Job No.: NC-24

Location: 2160 central ave
McKinleyville CA Date: 3-27-05 Tech: Scott Robertson

Date: 3-27-05

Tech: Scott Robertson

WELL No.	TIME	VOLUME (gal.)	TEMP. (deg. F.)	COND. (µS/cm)	pH	
MW-9	1154	.75	58.0	218	6.43	Sample for: (circle)
Calc. purge volume	1157	1.50	52.7	222	6.09	TPHg
	1158	2.25	52.5	220	6.85	TPHd BTEX Other
3.24	1200	3.25	57.3	219	6.39	Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

brown, low, good

Sample for: (circle)

TPHg TPHd 8010

BTEX Other

PVC bailer / Pump

Sampling Method:

Dedicated / Disposable bailer

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-10	1223	1	176	58.3	5.51	Sample for:
Calc. purge volume	1225	2	177	58.7	5.40	TPHg TPHd 8010
	1226	3	174	60.0	5.48	BTEX Other
	1228	4.5	168	60.2	5.37	Purging Method: PVC bailer / Pump
						Sampling Method: Dedicated Disposable bailer
COMMENTS: color, turbidity, recharge, sheen						
<i>1228 168 5.37</i>						

COMMENTS: color, turbidity, recharge, sheen

Brown, brown, spoon

Sample for:

TPHg TPHd 8010

BTEX Other

PVC bailer Pump

Dedicated / Disposable bailer

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
Mw-11	1253	1	104	59.8	6.86	Sample for:
Calc. purge volume <i>4.63</i>	1255	2	106	60.3	6.85	TPHg TPHd 8010
	1256	3	104	61.8	6.83	BTEX Other
	1258	4.6	110	61.9	6.86	<Purging Method> PVC bailer / Pump
COMMENTS: color, turbidity, recharge, sheen						Sampling Method:
<i>brown, low, good</i>						Dedicated / <i>Disposable bailer</i>

BLUE ROCK ENVIRONMENTAL, INC., 1169 CHESS DR., STE. C, FOSTER CITY, CA 94404

TEL (650) 522-9292 * FAX (650) 522-9259

WELL PURGING DATA

SHEET

OF

Job No.: NC-24

Location: 2160 Central Ave., Milpitas Date: 3-27-05 Tech: Scott Robertson

WELL No.	TIME	VOLUME (gal.)	TEMP. (deg. F.)	COND. (μ S/cm)	pH	
MW-8	1715	1	58.8	143	6.10	Sample for: (circle)
Calc. purge volume	1716	2	59.2	163	6.06	<input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd 8010
	1719	3	59.3	161	6.85	<input checked="" type="checkbox"/> BTEX Other MTR
4.75	1720	4.75	58.9	172	6.85	Purging Method: PVC bailer / Pump
						Sampling Method: Dedicated / Disposable bailer
						COMMENTS: color, turbidity, recharge, sheen <i>brown, low, good</i>

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-7						Sample for:
Calc. purge volume						TPHg TPHd 8010
2.64						BTEX Other
						Purging Method: PVC bailer / Pump
						Sampling Method: Dedicated / Disposable bailer
						COMMENTS: color, turbidity, recharge, sheen <i>Dry, no sample (well silted to 16.43')</i>

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-5						Sample for:
Calc. purge volume						TPHg TPHd 8010
4.33						BTEX Other
						Purging Method: PVC bailer / Pump
						Sampling Method: Dedicated / Disposable bailer
						COMMENTS: color, turbidity, recharge, sheen <i>Dry, no sample (well silted to 16.43')</i>

BLUE ROCK ENVIRONMENTAL, INC., 1169 CHESS DR., STE.C, FOSTER CITY, CA 94404

TEL. (650) 522-9292 * FAX (650) 522-9259



Report Number : 41986
Date : 1/19/2005

Andrew LoCicero
Blue Rock Environmental, Inc.
535 3rd Street, Suite 100
Eureka, CA 95501

Subject : 2 Vapor Samples
Project Name : Former Central BP
Project Number : NC-24

Dear Mr. LoCicero,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel Kiff".

Joel Kiff



Report Number : 41986
Date : 1/19/2005

Project Name : Former Central BP

Project Number : NC-24

Sample : Effluent 1/17/05 Matrix : Air Lab Number : 41986-01

Sample Date : 1/17/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	1/19/2005
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	1/19/2005
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	1/19/2005
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	1/19/2005
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	1/19/2005
Benzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	1/19/2005
Toluene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	1/19/2005
Ethylbenzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	1/19/2005
Total Xylenes (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	1/19/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	1/19/2005
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	1/19/2005
TPH as Gasoline (in ppmv)	< 5.0	5.0	ppmv	EPA 8260B	1/19/2005
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	1/19/2005
4-Bromofluorobenzene (Surr)	96.7		% Recovery	EPA 8260B	1/19/2005

Approved By:

Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 41986

Date : 1/19/2005

Project Name : Former Central BP

Project Number : NC-24

Sample : Influent 1/17/05

Matrix : Air

Lab Number : 41986-02

Sample Date : 1/17/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.38	0.20	mg/m3	EPA 8260B	1/19/2005
Toluene	2.9	0.20	mg/m3	EPA 8260B	1/19/2005
Ethylbenzene	2.3	0.20	mg/m3	EPA 8260B	1/19/2005
Total Xylenes	11	0.20	mg/m3	EPA 8260B	1/19/2005
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	1/19/2005
Benzene (in ppmv)	0.11	0.050	ppmv	EPA 8260B	1/19/2005
Toluene (in ppmv)	0.71	0.050	ppmv	EPA 8260B	1/19/2005
Ethylbenzene (in ppmv)	0.48	0.050	ppmv	EPA 8260B	1/19/2005
Total Xylenes (in ppmv)	2.4	0.050	ppmv	EPA 8260B	1/19/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	1/19/2005
TPH as Gasoline	280	20	mg/m3	EPA 8260B	1/19/2005
TPH as Gasoline (in ppmv)	67	5.0	ppmv	EPA 8260B	1/19/2005
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	1/19/2005
4-Bromofluorobenzene (Surr)	97.6		% Recovery	EPA 8260B	1/19/2005

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

ADR SAMPLES

Lab No. 41986

Page ____ of ____

Project Contact (Hardcopy or PDF To):

Andrew Tolocero

Company/Address: *Blue Rock Environ.*
535 3rd St. Eureka CA 95501

Phone No.: *707 4411939* FAX No.: *7074411949*

Project Number: *NC-24* P.O. No:

Project Name: *Former Central BP*

Project Address: *2160 Central Ave
McKinleyville CA*

Sample Designation

Effluent 1/17/05	1/17/05 1400
Effluent 1/17/05	1/17/05 1400
Influent 1/17/05	1/17/05 1400

California EDF Report? Yes No

Recommended but not mandatory to complete this section:

Sampling Company Log Code: - - -

Global ID:

EDF Deliverable To (Email Address):

Sampler Signature: *J. H. M.*

Chain-of-Custody Record and Analysis Request

Analysis Request

BTEX (8021B)	BTEX/Gas/MTBE (8021B/MB015)	TPH as Diesel (MB015)	TPH as Motor Oil (MB015)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	6 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1.2 DCA & 1.2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	TAT	For Lab Use Only
												12 hr / 24 hr / 48 hr / 72 hr <i>ATD</i>	
													X 01

Relinquished by: *A. M.*

Date *1/17/05* Time *1500* Received by: *FED BY*

Remarks: *Results in mg/m³
+
ppm*

Relinquished by: _____

Date _____ Time _____ Received by: _____

Relinquished by: _____

Date *01/18/05* Time *0936* Received by Laboratory: *Kiff Analytical*

Bill to: *Procter & Gamble*



Report Number : 42277

Date : 2/10/2005

Andrew LoCicero
Blue Rock Environmental, Inc.
535 3rd Street, Suite 100
Eureka, CA 95501

Subject : 2 Vapor Samples
Project Name : Former Central BP
Project Number : NC-24

Dear Mr. LoCicero,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff". Below the signature, the name "Joel Kiff" is printed in a small, black, sans-serif font.



Report Number : 42277

Date : 2/10/2005

Project Name : Former Central BP

Project Number : NC-24

Sample : Effluent 2/7/05

Matrix : Air

Lab Number : 42277-01

Sample Date : 2/7/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	2/9/2005
Toluene	0.31	0.20	mg/m3	EPA 8260B	2/9/2005
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	2/9/2005
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	2/9/2005
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	2/9/2005
Benzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	2/9/2005
Toluene (in ppmv)	0.075	0.050	ppmv	EPA 8260B	2/9/2005
Ethylbenzene (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	2/9/2005
Total Xylenes (in ppmv)	< 0.050	0.050	ppmv	EPA 8260B	2/9/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	2/9/2005
TPH as Gasoline	28	20	mg/m3	EPA 8260B	2/9/2005
TPH as Gasoline (in ppmv)	6.5	5.0	ppmv	EPA 8260B	2/9/2005
Toluene - d8 (Surr)	97.8		% Recovery	EPA 8260B	2/9/2005
4-Bromofluorobenzene (Surr)	94.7		% Recovery	EPA 8260B	2/9/2005

Approved By:

Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 42277

Date : 2/10/2005

Project Name : Former Central BP

Project Number : NC-24

Sample : Influent 2/7/05

Matrix : Air

Lab Number : 42277-02

Sample Date : 2/7/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	6.7	0.20	mg/m3	EPA 8260B	2/9/2005
Toluene	52	0.20	mg/m3	EPA 8260B	2/9/2005
Ethylbenzene	14	0.20	mg/m3	EPA 8260B	2/9/2005
Total Xylenes	54	0.20	mg/m3	EPA 8260B	2/9/2005
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	2/9/2005
Benzene (in ppmv)	1.9	0.050	ppmv	EPA 8260B	2/9/2005
Toluene (in ppmv)	13	0.050	ppmv	EPA 8260B	2/9/2005
Ethylbenzene (in ppmv)	3.0	0.050	ppmv	EPA 8260B	2/9/2005
Total Xylenes (in ppmv)	11	0.050	ppmv	EPA 8260B	2/9/2005
Methyl-t-butyl ether (in ppmv)	< 0.10	0.10	ppmv	EPA 8260B	2/9/2005
TPH as Gasoline	1600	20	mg/m3	EPA 8260B	2/9/2005
TPH as Gasoline (in ppmv)	390	5.0	ppmv	EPA 8260B	2/9/2005
Toluene - d8 (Surr)	91.7		% Recovery	EPA 8260B	2/9/2005
4-Bromofluorobenzene (Surr)	98.5		% Recovery	EPA 8260B	2/9/2005

Approved By:

Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

APK Samples

Lab No. 42271

Page _____ of _____

Distribution: White - Lab, Pink - Originator

Forms/coc 121001.fng